Infrastructure Financing for Small Communities in Washington State

A reference book and workbook to help decision-makers in small communities understand, evaluate and select the best financing options for their infrastructure needs.

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Acronyms

AWC - *Association of Washington Cities*

BAN - *Bond anticipation note*

CCWF - *Centennial Clean Water Fund*

CDBG - *Community Development Block Grant*

CERB - *Community Economic Revitalization Board*

CF - *Community Facilities (part of USDA-RD)*

CFP - *Capital facilities program*

CIF - *Community Investment Fund (part of CDBG)*

COP - *Certificate of Participation*

CRAB - *County Road Administration Board*

CTED - *Washington State Department of Community, Trade and Economic Development*

CWSRF-*Clean Water State Revolving Fund*

DOE - *Washington State Department of Ecology*

DOH-*Washington State Department of Health*

DOT - *Washington State Department of Transportation*

DWSRF - *Drinking Water State Revolving Fund*

EDA - *Economic Development Administration*

EPA - *Environmental Protection Agency*

ERWoW - *Evergreen Rural Water of Washington*

GAN - *Grant anticipation note*

GMA - *Growth Management Act*

GO - *General obligation (bond)*

LID - *Local improvement district*

MPO - *Metropolitan Planning Organization*

MRSC - *Municipal Research & Services Center*

NEPA - *National Environmental Policy Act*

NSCS - *Northwest Small Cities Services*

OGDF – *Old Growth Diversification Fund*

PWTF - *Public Works Trust Fund*

RAN - *Revenue anticipation note*

RAP - *Rural Arterial Program*

RBEG - *Rural Business Enterprise Grant*

RBS - *Rural Business Service (part of USDA RD)*

RCAC - *Rural Community Assistance Corporation*

RCW - *Revised Code of Washington*

RD - *USDA Rural Development*

REV – *CERB/DOT Rural Economic Vitality*

RHS - *Rural Housing Service (part of USDA RD)*

RNR - *Rural Natural Resources (a CERB program)*

RTPO - *Regional Transportation Planning Organization*

RUS - *Rural Utilities Service (part of USDA RD)*

SEPA - *State Environmental Policy Act*

STEP - *Small Towns Environment Program*

STP - *Surface Transportation Program*

TAN-*Tax anticipation note*

TEA-21 - *Transportation Equity Act for the 21st Century*

TIA - *Transportation Improvement Account*

TIB - *Transportation Improvement Board*

UATA - *Urban Arterial Trust Account*

USDA - *United States Department of Agriculture*

WAC - *Washington Administrative Code*

Preface

Many of Washington's small communities are experiencing an infrastructure crisis. Water and wastewater systems have reached the end of their useful life and local streets are in need of repair. Washington's population is growing rapidly, eliminating excess infrastructure capacity. At the same time, governmental funding programs are being severely reduced. Environmental regulations are becoming stricter. Taxpayers and utility rate payers are becoming more reluctant to pay for facilities improvements.

And yet, local infrastructure spending remains one of the most important parts of the economic development equation.

At the heart of infrastructure development is financing – how can communities, struggling to keep their facilities working, pay for infrastructure improvements? This manual is a reference and work-book intended to help decision-makers in small communities understand, evaluate, and select the best financing options for their infrastructure needs.

Who should use this manual?

Elected officials, clerk-treasurers, city managers, public works managers, consultants and government program staff will all find this manual useful. Although special purpose districts and counties can use many of the financing methods explained here, this manual is written primarily for small cities and towns.

Working through this manual will create a stronger, clearer base of knowledge for making better financing decisions. It can raise awareness of the many possible ways to finance infrastructure improvements and clarify how each way may affect a community.

This manual assumes that the community has already developed a capital facilities plan. Although this manual focuses on water, wastewater[1] and basic transportation system[2] financing issues, the tools and ideas explained here can also be applied to other types of infrastructure systems, including stormwater, community facilities and parks.

Input from financing staff, public works staff, elected officials, and consultants may be necessary to complete all of the worksheets in this manual. The completed worksheets can be updated as conditions change. Local decision-makers can use this information to show government funding programs how their funds fit into an overall infrastructure improvement financing plan. This information can also help analyze a community's financial health, provide useful information to consultants and educate the public about available infrastructure financing options. This manual and the information developed by working through it can also be valuable tools for passing institutional knowledge from one administration and staff to the next.

[1] "Wastewater" and "sewer" are used interchangeably in this manual.
[2] "System" in this manual means water, wastewater, transportation, or other infrastructure system.

Organization

The manual includes 10 chapters with exercises and worksheets to help practice calculations and organize community information. Samples of completed worksheets are provided. Blank worksheets are included in Appendix A. These worksheets can be copied as needed.

Because government funding program requirements and funding cycles are constantly changing, information on government loan and grant programs is included in Appendices B and C, respectively.

Completing the worksheets will help document the infrastructure financing needs of a community, examine alternative financing scenarios and develop an overall infrastructure financing plan. Because many of the calculations will be redone as more information is introduced, consider using a pencil to complete the worksheets. A handheld calculator will also be useful. Worksheets are labeled consistent with the system being improved, i.e., W = water system, WW = wastewater system, and T = transportation system.

The chapters are organized as follows:

- **Chapter 1 - The System-Wide Perspective**
  The benefits of viewing infrastructure improvements from the system perspective rather than project-by-project; and breaking costs down to planning, pre-construction and construction.

- **Chapter 2 - Reducing Costs**
  Ways to reduce overall costs, including volunteer/self-help programs; using local public works staff; sources of free or inexpensive technical assistance; mutual aid networks; conservation and pollution prevention; rescheduling projects; and public-private partnerships.

- **Chapter 3 - Providing Excess Infrastructure Capacity**
  Reasons for providing excess infrastructure capacity; making growth pay for growth.

- **Chapter 4 - Local Revenue**
  Various local revenue sources including taxes, utility rates and fees that can be used for water, wastewater and transportation system improvements.

- **Chapter 5 - Bonds, Debt Capacity and Short-Term Financing**

  The characteristics of different kinds of municipal bonds that are commonly used to finance infrastructure improvements in Washington; an overview of general obligation debt capacity; and short-term financing mechanisms.

- **Chapter 6 - Loans and Grants**
  Strategies for obtaining government loans, commercial loans, and government grants; and frequently overlooked costs associated with outside funding.

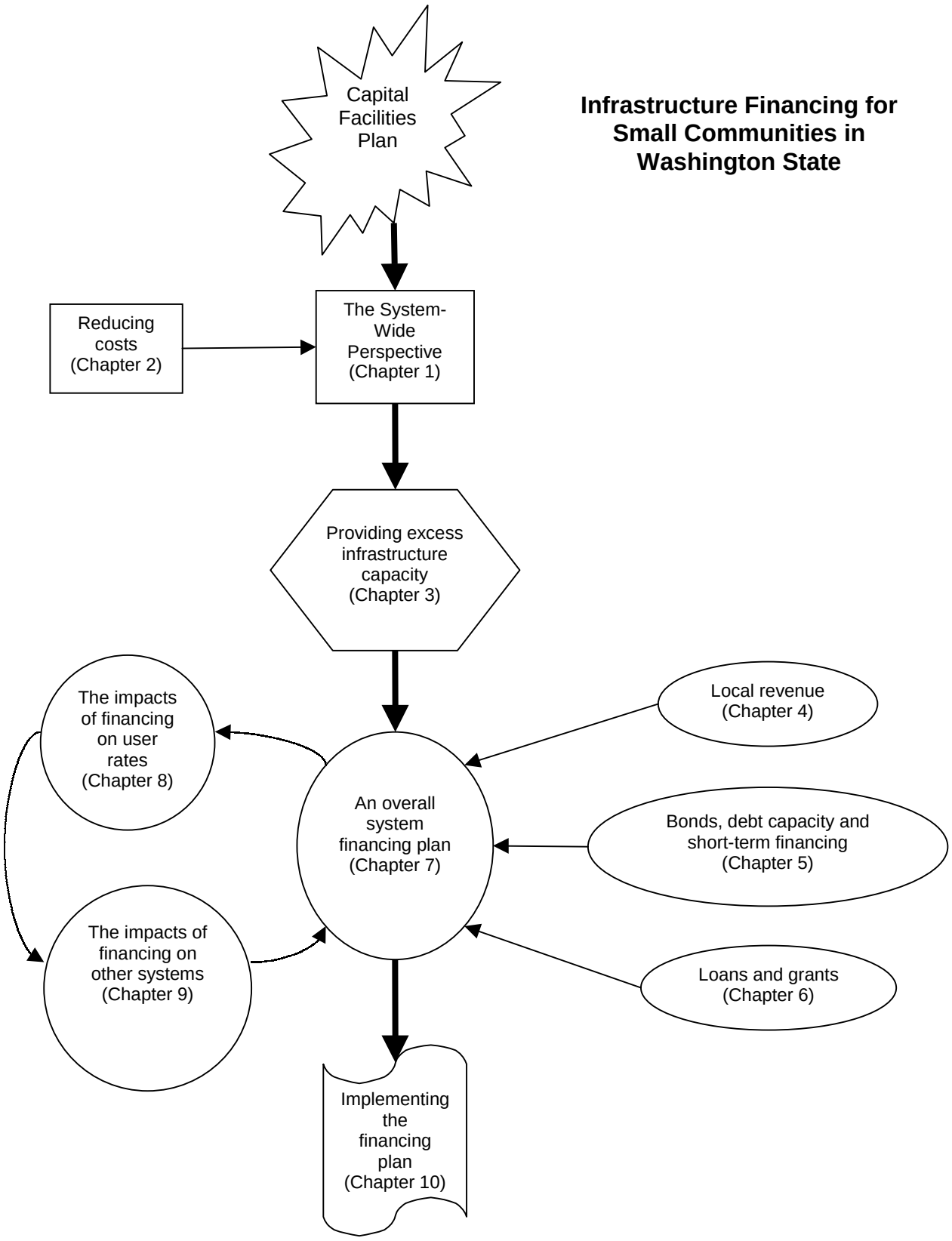
- **Chapter 7 – Outlining an Overall System Financing Plan**
  How to put together single funder and multi-funder debt packages, turn available financing options into long-term financing options (both with and without the aid of computer spreadsheets), and develop the final financing packages.

- **Chapter 8 - The Impacts of Financing on User Rates**
  The impact of financing decisions on utility users.

- **Chapter 9 - The Impacts of Financing on Other Systems**
  Financing decisions for one system can affect other systems and the community.

- **Chapter 10 - Implementing the Financing Plan**
  Ways to ensure that the financial plan is implemented.

Infrastructure Financing for Small Communities in Washington State



Introduction

Traditional infrastructure financing = confusion and frustration

Decision-makers in many small communities become confused and frustrated when they try to finance infrastructure improvements, in part, because they must consider so many different points of view about what must be done. Regulatory agency staff, consultants, funding agency staff, elected officials, local government staff, and local citizens all have different ideas about what to do:

Comply with regulations…but don't oversize for growth.
Be on the cutting edge of technology…but make sure it will work.
Find a grant…but don't take a loan.
Make the improvements…but don't raise the rates.

However, many small communities in Washington are financing infrastructure improvements without balancing these considerations. To save money or time, facilities are being sized for current demands, and therefore, are undersized for growth. Debt incurred years ago limits the number of financing options available for projects needed today. Users are unhappy when rates increase too quickly and are unwilling to finance needed improvements. As a result, services remain inadequate, economic development stalls, community spirit drops and people lose sight of achieving their community vision.

Infrastructure financing decisions need to be made in such a way that the community's vision is honored and promoted. The usual hand-to-mouth, project-to-project, pray-for-a-grant, and keep-the-rates-low-at-all-costs method of funding improvements needs to be replaced with an informed, long-term financing strategy. This isn't magic, and it isn't rocket science. Rather, it is a process of determining needs, analyzing financing options and balancing funding requirements with local priorities.

This manual assumes that the community has already completed a capital facilities plan[3] (CFP) and that citizens were involved in defining level of service standards. Once the exercises in this manual have been completed, revisit level of service standards if it turns out that tax-payers and rate payers are unwilling to pay for the projects identified in the CFP. Community priorities need to be honored when making financing decisions.

[3] Sample capital facilities plans can be obtained from the Municipal Research & Services Center, 206/625-1300 or from the Growth Management Program at the Department of Community, Trade and Economic Development, (CTED) 360/753-2222.

Chapter 1

The System-wide Perspective

The one-project-at-a-time pitfall

Many communities see financing infrastructure improvements from the standpoint of financing individual projects, or at most, two or three projects together. Here is a typical scenario:

A good overall system financing plan can be used to educate ratepayers and taxpayers on how financial impacts are spread out over time. It can also show funding program and regulatory agency staff how each program's funds would be part of an overall package. An overall system financing plan demonstrates local commitment to long-term problem solving.

Upon finishing its capital facilities plan (CFP), a small city begins filling out grant and loan applications to finance the first year's worth of projects. One of the loan applications is successful, the loan is accepted, the user rates are raised to meet the loan requirements, and the improvements are made.

Users complain about the increased rates and vote "those rate-raising city council members" out of office. The new council is hesitant to raise rates again, even though it knows that more improvements will be needed in a few years. The rates stay constant for the next few years while operations and maintenance costs go up, and reserves begin to dry up.

In five years the community dusts off its CFP only to find that it has not completed the improvements it needed to make. [1] The city also does not have money to pay for the needed improvements, because rates were not high enough to cover operations and maintenance

[1] Counties and cities planning under the Growth Management Act (GMA) have a legal obligation to keep their capital facilities plan working and up-to-date. References to specific parts of the Act that support this requirement are:

- RCW 36.70A.020 (12) - Public facilities and services.
- RCW 36.70A.070 (3) - Capital facilities plan element and (6) Transportation element.
- RCW 36.70A.120 - Planning activities and capital budget decisions. Implementation in conformity with comprehensive plan.

All counties and cities in Washington, including those planning under GMA, also need up-to-date capital facilities plans to comply with the following requirements:

- RCW 58.17.110 - Requires written findings, prior to subdivision approval, demonstrating that appropriate provisions are made for the public health, safety and welfare, and for such open spaces, drainage ways, streets or roads, alleys, other public ways, transit stops, potable water supplies, playgrounds, schools and schoolgrounds, and other relevant facts, including sidewalks and other planning features that assure safe walking conditions for students that walk to and from schools.
- RCW 19.27.097 - Building permit application - Evidence of adequate water supply - Applicability - Exemption
- RCW 35.77.010 - Perpetual advanced six-year plans of coordinated transportation program expenditures - Nonmotorized transportation - Railroad right-of-way.

costs, let alone contribute to a reserve fund. The regulatory agency is ready to order the community to bring the system into compliance. The city files an application for funding the improvements, but learns that it will cost quite a bit to finance all the improvements. So the scope of work is cut back, but the rates still must be raised significantly, and the cycle repeats itself.

It is important to educate the public on infrastructure financing decisions that will affect them. Be sure to provide plenty of opportunities for public input and involvement as various financing scenarios are explored.

What if the community had planned a better way to finance those improvements? It might have avoided shocking the ratepayers with sharp and infrequent rate increases. It might have avoided having to fill out so many funding applications. It might have been able to show funding and regulatory staff that it had a plan to keep the system operating in compliance.

An alternative to the one-project-at-a-time scenario is to create a plan for financing all six years' worth of projects listed in a community's CFP, then gaining the right financing for each improvement at the right time. This is different from the way many funding programs and communities have looked at infrastructure financing in the past.

Figure 1-1 - Sample Water System Capital Improvement Projects

Year	***Project***	***Cost***
1999	Test corrosion parameters and reduce corrosion in drinking water	$220,000
1999	Highway 410 water line	$152,000
1999	Leak detection and repair	$25,000
2000	Meter replacement	$52,000
2000	Stabilize transmission line	$570,000
2001	Correct water line intersection at Pearl and Ryan	$15,000
2002	Install 1,000 feet of 8 inch ductile iron pipe on A Street	$33,000
2004	Design and construct 500,000 gallon storage tank	$520,000
	Total	**$1,587,000**

A community must find a way to obtain the dollars listed on its CFP. Rather than going through each improvement and listing whether the money will come from local or outside sources, a community could look at the overall improvements that need to be made, and then could create a financing plan for all six years' worth of improvements. As a first step, consider the costs of each phase.

It is never too early to think about how to bring in the financing partners. Eventually, many small community infrastructure improvements are implemented with government and non-profit financing and technical assistance. Engaging these players early and often throughout the process -- when a system plan is done, after a capital facilities plan is completed or even after finishing this manual -- is important. By treating funding program staff as partners, they can more easily offer guidance on immediate next steps, validate efforts made, talk about new restrictions specific to their program or even give tips on how to best access their programs. Best of all, communities that raise the level of attention to their improvements may later experience better project recognition and understanding when the application comes up for review.

Three phases of system improvements

Most infrastructure system improvements follow a general process of planning, pre-construction and construction. Each of these "phases" is described below:

- ***Planning*** tasks include identifying alternative solutions to meet shortcomings, conducting a financial feasibility analysis and estimating the probable costs. One planning document may identify many separate projects that need to be done within a system.

- ***Pre-construction*** tasks include designing, engineering, permitting, preparing bid-documents, acquiring the site and right-of-way, assessing environmental impacts and preparing an implementation schedule.

- ***Construction*** tasks include finalizing financing, constructing facilities (including labor, materials and insurance), paying sales and use taxes, accommodating contingencies and change orders and inspecting construction.

Some revenue sources are more appropriate than others for funding different phases of system improvements. For example, some government loan programs can fund pre-construction and construction costs, but not planning. Some local revenue sources are also more appropriate for certain phases than others.

By breaking down overall costs into planning, pre-construction and construction costs, financing needs for the water, wastewater or transportation system can be better defined, and sources of revenue for meeting those needs can be identified. Ask the project engineer or public works staff for help with breaking down overall costs or look at planning, pre-construction and construction phase percentages for past projects.

Exercise: Identify costs of system improvement projects by phase[2]

Blank worksheets are provided in Appendix A.
See Sample Worksheet 1-W for an example of how to fill in these worksheets.

1. On Worksheet 1-W, list the water system improvement projects that will be needed during the next six years in column 1. Add more rows if you have more than eight projects.
2. Write the estimated cost of each project in column 2.
3. Write the year that each project will begin in column 4.
4. In column 5, break down the costs of each project by phase (planning, pre-construction and construction). Refer to the previous section for definitions of each phase.
5. Write the total planning, pre-construction and construction costs for all projects in column 5.
6. Repeat steps one through five for wastewater and transportation systems using worksheets 1-WW and 1-T.

[2] Note: Only columns 1-5 on Worksheet 1 will be completed during this exercise. Columns 6-8 will be completed in Chapter 2 and columns 9-10 will be completed in Chapter 3.

Sample Worksheet 1-W — Projected Costs for Water System Improvements by Project, Phase and Year

1	2	3	4	5	6	7	8	9	10
Project	***Total project cost (before any possible savings)***	***Project phase***	***Year***	***Phase cost***	***Possible savings***	***Source of savings***	***Total cost after savings***	***Costs for meeting existing needs***	***Costs for meeting excess capacity needs***
Test corrosion parameters and reduce corrosion in drinking water	$220,000	Planning	1999	$20,000					
		Pre-construction	1999	$40,000					
		Construction	1999	$160,000					
Highway 410 water line	$152,000	Planning	1999	$8,000					
		Pre-construction	1999	$0					
		Construction	1999	$144,000					
Leak detection and repair	$25,000	Planning	1999	$15,000					
		Pre-construction	1999	$0					
		Construction	1999	$10,000					
Meter replacement	$52,000	Planning	2000	$0					
		Pre-construction	2000	$0					
		Construction	2000	$52,000					
Stabilize transmission line	$570,000	Planning	2000	$20,000					
		Pre-construction	2000	$50,000					
		Construction	2000	$500,000					
Correct water line intersection at Pearl and Ryan	$15,000	Planning	2001	$0					
		Pre-construction	2001	$0					
		Construction	2001	$15,000					
Install 1,000’ of 8” ductile iron pipe on ‘A’ St.	$33,000	Planning	2002	$0					
		Pre-construction	2002	$3,000					
		Construction	2002	$30,000					
Design and construct 500,000 gal storage tank	$520,000	Planning	2004	$0					
		Pre-construction	2004	$20,000					
		Construction	2004	$500,000					
Total	$1,587,000	Planning		$63,000					
		Pre-construction		$113,000					
		Construction		$1,411,000					

Chapter 2

Reducing Costs

Before putting together a multi-year infrastructure-financing plan for an entire system, investigate whether there are ways to reduce the cost of improvements.

Volunteers/self-help

Often, the best way for a community to save money is to make use of volunteer labor. This can take the form of informal volunteer work parties or enrollment in the Washington State Department of Ecology's (DOE) Small Towns Environment Program (STEP). The Department of Ecology, in cooperation with the Rensselaerville Institute, is helping many small communities use the STEP process in Washington to complete wastewater system improvements using volunteer labor[1].

A local project coordinator or "sparkplug" is essential for success. It is also helpful if the community can get a very detailed task breakdown for all costs from the engineering consultant. It may be useful to inventory locally available resources, including labor and materials.

Although local volunteers most commonly get involved in the construction phase of a project[2], they also can participate in other phases, including planning or overall project management. Sometimes community members can investigate alternative, cost-effective technologies. Also, many funding programs credit volunteer work by citizens as local match for grants or loans. Be sure to investigate the legality and liability of using volunteers to complete record keeping and reporting tasks.

Contacts:

- Washington Department of Ecology, Small Towns Environment Program, 360/407-6541
- Rensselaerville Institute, 518/797-3783

The Town of Wilkeson (population 430) undertook a two-phase rehabilitation of its wastewater system including a major upgrade to its treatment plant and replacement of an aging sewer main that had inflow and infiltration (I&I) problems.

Wilkeson recently replaced the sewer main in cooperation with Washington's STEP program. The original retail estimate listed in the town's comprehensive plan for the sewer main replacement was $156,000. This amount included construction costs, engineering design, an income survey and preparation of the loan/grant applications. By using volunteer labor for each part of the project, the actual costs were only $33,000. Thus, the town saved approximately $123,000 by using the self-help approach.

[1] Although the Department of Health does not have a formal STEP program, costs can also be reduced for water system improvements by using volunteer labor.
[2] Trenching operations can be extremely dangerous. Use caution when using volunteers in or near trenches.

Use local public works staff

Having local public works staff perform part of the construction work can also reduce the amount of outside financing needed. However, state law limits the amount of public work that can be done this way[3] to a percentage of the overall public works construction budget. The restrictions are based on several factors, including: what percentage of the annual construction budget a project represents; the overall cost of the project; whether the entity is a first or second class city; how many different crafts are involved; and what kind of facilities are being worked on. Be sure to follow all bidding regulations[4].

Evergreen Rural Water of Washington (ERWoW) assisted the Town of Concrete (population 770) by smoke testing some of the town's sewer lines to detect leaks. By working with ERWoW and using staff and volunteers, the town saved approximately $3,500.

ERWoW can also put a closed circuit television camera in sewer lines to find leaks. For-profit contractors that provide this service may charge more than $100 per hour. Depending on the type of sewer system involved, a contractor can inspect approximately 700 to 2,000 feet of sewer line per day. *Smoke testing is usually done by forcing smoke (from a smoke bom) through an isolated section of pipe using an air blower placed over a manhole. If there are holes or cracks in the pipes, the smoke will surface at these points*.

Technical assistance

Government agencies and nonprofit organizations can often provide free or inexpensive technical assistance on an infrastructure project. For example:

- RCAC can help small water and wastewater systems complete rate studies. RCAC Washington field office, 360/493-2260.
- Evergreen Rural Water of Washington (ERWoW) can help to detect pipe leaks for an inflow and infiltration study. ERWoW, 509/962-6326.
- State regulators or local health departments may be able to help evaluate alternative treatment technologies for water system improvements. Washington State Department of Health, (DOH) Public Water System Technical Assistance Program, 800/521-0323 or dwinfo@doh.wa.gov.
- Ask the community's consultant to evaluate alternative wastewater treatment technologies, or contact a regional office representative. Department of Ecology (DOE) state headquarters, 360/407-6000.

Mutual aid networks

Mutual aid networks are formed when two or more communities make a decision to share resources without giving up their individual identities. Such networks can take the form of small water systems sharing one certified operator or a group of public works managers jointly purchasing chemicals or renting equipment.

[3] Within certain limitations (see RCW 35.22.620), a first class city may have public works performed by city employees in any annual or biennial budget period equal to a dollar value not exceeding ten percent of the entire public works construction budget. Also see RCW 35A.40.210, RCW 35.22.620-630, and RCW 35.23.352.

[4] Contact Municipal Research & Service Center at 206/625-1300 or at *www.mrsc.org* for more information on bidding regulations, including 1998 bid law changes.

A mutual aid network benefits all communities involved and can result in significant cost savings. These networks can be formed through formal intergovernmental agreements or informally when public works staff from each system communicate and cooperate on projects.

The Department of Health required the City of Stevenson (population 1,210) to prepare a water system plan. The original estimated cost was $36,000. The water system plan was to include a water rate analysis. RCAC helped the city complete a water rate analysis, which saved the city approximately $6,000. RCAC also helped the city locate funds from the United States Department of Agriculture (USDA) Forest Service to fund the plan.

Conservation

By reducing the demand on a system, a local government may be able to delay, reduce or avoid the need for new system components. For example, some communities in Washington have found that by funding a water conservation campaign, the demand for water decreased, delaying the need for major water system improvements. The local government can use the time to add to reserve funds.

Water conservation may also reduce the size of components, such as a water tank, that will be needed and can decrease the loading on wastewater systems.

Pollution prevention

By pre-treating wastewater before it is discharged to the wastewater collection system, or by altering production methods to reduce the amount of pollutants produced in the first place, industries can reduce the demand on a wastewater treatment plant.

Re-schedule projects

Planning a schedule for future system improvements can help identify possible conflicts and can help coordinate and make better use of donated equipment or volunteers. For example, a community member may have donated the use of a piece of machinery for one week to grade the area where new water reservoirs will be built. However, if the community also needs to grade land for a new wastewater treatment facility in a few months, re-scheduling the projects for the same week can maximize the use of the donated machinery.

Similarly, a community can save money and avoid public criticism by installing water lines, sewer lines and/or utility lines at the same time before resurfacing a road, rather than having to tear the road up twice.

Public-private partnerships

As many traditional sources of funding become more difficult to obtain, communities are increasingly considering financing options that involve more private participation. Public-private partnerships are contractual relationships between a public authority, usually a local government, and a private company, in which both parties commit to providing a local service.

These partnerships can involve many kinds of activities, including designing, financing, constructing, operating, maintaining, managing or owning an infrastructure facility. In the majority of public-private partnerships, the private partner traditionally provides operations, maintenance and management services. Many partnerships involve the public partner in financing infrastructure improvements.

Privatization

In privatization, the private partner contracts with a local government to design, build, own and operate the infrastructure facility. This is permitted only for wastewater facilities under RCW 70.150. It is not generally available for water facilities.

The private partner usually, in part or in whole, finances the operation, but may be able to access tax-exempt financing through the local government. However, tax-exempt financing is not available for all of these types of projects. Contact bond counsel or the Bond Cap Allocation Program[5] at the Department of Community, Trade and Economic Development for more information.

WSU Cooperative Extension engineering assistance

Engineers at some of Washington State University (WSU) Cooperative Extension's county offices can help communities with different design alternatives for infrastructure systems. Contact a WSU county extension agent[6] for more information.

Verify that cost estimates are reasonable

Read engineers' infrastructure project cost estimates carefully and verify that amounts for each line item are reasonable.

Choose locally available parts

When selecting parts for an infrastructure improvement, choose those that are available locally whenever possible. Generally, it is easier, faster and cheaper to replace parts that are available locally than ordering them from another region or state.

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[5] The Bond Cap Allocation Program, managed by the Department of Community, Trade and Economic Development, is designed to allow tax-exempt financing for projects that provide significant public benefit and have some private involvement. Contact 360/753-0307 for more information.

[6] Washington Extension Agents are usually found under WSU Cooperative Extension in the Government pages of the phone book.

Use standardized system components

Encourage the engineer to use standardized, generic package system components whenever possible, rather than customized system components. This saves money up front and also may reduce operation and maintenance costs in the future.

Consider life-cycle costs

Using less sophisticated components is a good way to reduce costs. However, if this means higher annual operation and maintenance costs, more frequent major repairs or upgrades and irregular performance, it may not be worth the initial cost savings. Consider the proper running costs of a facility over its entire life cycle. A community's engineer can calculate the expected life cycle costs of improvements and can comment on how those costs affect design decisions.

Take care of facilities

Take care of facilities to ensure that they last as long as possible. Follow regular maintenance schedules.

Get information from equipment suppliers

Equipment suppliers often offer useful information, but be wary, it may be biased.

Sell timber cleared from construction sites

"Cruise" the area of any new construction project for timber before clearing for a new road, service lines or a pump station. There may be substantial value in timber. One city in southern Washington realized a net gain of $6,000 by selling timber cleared from a 450-foot strip next to a new road.

Exercise: Identify possible savings for each project in each system[7]

Blank worksheets are provided in Appendix A.
See Sample Worksheet 1-W below for an example of how to fill in these worksheets.

1. On Worksheet 1-W, write possible cost savings for water system projects in column 6.
2. Write the source of those cost savings in column 7.
3. Write the total cost savings for all water system projects by phase in the last three rows of column 6.
4. In column 8, write the expected cost of each project phase after subtracting any cost savings.
5. Write the total expected cost of all water system projects after cost savings by phase in the last three rows of column 8.
6. Repeat steps 1-5 for wastewater and transportation systems using Worksheets 1-WW and 1-T.

[7] Note: Only columns 6-8 on Worksheet 1 will be completed during this exercise. Columns 1-5 were completed in Chapter 1, and columns 9-10 will be completed in Chapter 3.

Sample Worksheet 1-W — Projected Costs for Water System Improvements by Project, Phase and Year

1	2	3	4	5	6	7	8	9	10
Project	***Total project cost (before any possible savings)***	***Project phase***	***Year***	***Phase cost***	***Possible savings***	***Source of savings***	***Total cost after savings***	***Costs for meeting existing needs***	***Costs for meeting excess capacity needs***
Test corrosion parameters and reduce corrosion in drinking water	$220,000	Planning	1999	$20,000	$18,000	in-house engineering	$2,000		
		Pre-construction	1999	$40,000			$40,000		
		Construction	1999	$160,000			$160,000		
Highway 410 water line	$152,000	Planning	1999	$8,000			$8,000		
		Pre-construction	1999	$0			$0		
		Construction	1999	$144,000	$9,000	donated materials	$135,000		
Leak detection and repair	$25,000	Planning	1999	$15,000	$7,000	ERWoW	$8,000		
		Pre-construction	1999	$0			$0		
		Construction	1999	$10,000			$10,000		
Meter replacement	$52,000	Planning	2000	$0			$0		
		Pre-construction	2000	$0			$0		
		Construction	2000	$52,000			$52,000		
Stabilize transmission line	$570,000	Planning	2000	$20,000			$20,000		
		Pre-construction	2000	$50,000			$50,000		
		Construction	2000	$500,000			$500,000		
Correct water line intersection at Pearl and Ryan	$15,000	Planning	2001	$0			$0		
		Pre-construction	2001	$0			$0		
		Construction	2001	$15,000			$15,000		
Install 1,000’ of 8” ductile iron pipe on ‘A’ St.	$33,000	Planning	2002	$0			$0		
		Pre-construction	2002	$3,000			$3,000		
		Construction	2002	$30,000			$30,000		
Design and construct 500,000 gal storage tank	$520,000	Planning	2004	$0			$0		
		Pre-construction	2004	$20,000			$20,000		
		Construction	2004	$500,000			$500,000		
Total	$1,587,000	Planning		$63,000			$38,000		
		Pre-construction		$113,000			$113,000		
		Construction		$1,411,000			$1,402,000		

Chapter
3

Providing Excess Infrastructure Capacity

Some infrastructure improvements may be required to provide excess infrastructure capacity[1] and accommodate growth. But what exactly is "growth"?

Growth doesn't necessarily mean more people

The City of Stevenson's (population 1,210) wastewater treatment plant experienced huge flow increases after Skamania Lodge opened (195 rooms plus a restaurant and lounge), even though population of the city increased very little.

Of course, growth *can* include more people. New residential development obviously will require infrastructure improvements. In many cases, people coming to a community in search of a job or a better quality of life also may not be satisfied with existing levels of service in that community. Newcomers may demand urban levels of service, which require more costly improvements.

Growth may also mean upgrading or building new infrastructure to accommodate local economic and community development. Job creation, business retention, tourists, social services, and new buildings may place more demand on infrastructure.

Before putting together an infrastructure financing plan, understand how growth is occurring and will occur in the community, because this growth will affect how facilities are designed. For example, if the wastewater facilities are not built to allow for new connections, greater flows or flows that require more treatment, then the size of the facilities may have to be increased, building materials may have to be changed or new technology may have to be installed in the future. These kinds of changes are usually more expensive than building the correct facilities in the first place.

This is why managing growth is at the heart of any good comprehensive planning effort. Because of concurrency requirements[2] in the Growth Management Act (GMA), a city or county planning fully under GMA that wishes to increase its land base and service area must ensure that it has the facilities in place (or a plan to finance and put them in place) to serve the expected population in the new area.

[1] In this case, infrastructure capacity refers to the quantity and/or quality of water or wastewater being processed, or the amount of traffic accommodated on a roadway.
[2] For more information on concurrency requirements, contact the Department of Community, Trade and Economic Development Growth Management Program at 360/753-2222.

Concurrency demands careful monitoring of available capacity. As long as there are no new businesses coming to town and plenty of excess capacity, concurrency is easy to achieve. But once capacity is needed, a community will have to comply with concurrency requirements, either by building more capacity, lowering its service standards levels or adjusting its land use plan.

The City of Cheney (population 8,270) began looking at its capital facilities needs even before Spokane County was required to plan under the GMA. Anticipating growth and providing capacity through GMA planning has enabled Cheney to bring more than 900 new jobs to the community from five different manufacturing companies. This was accomplished because the city had looked at its future needs for water and sewer and was able to provide these services to the new businesses. *From* About Growth, *Washington Department of Community, Trade and Economic Development, Spring, 1998*

Design facilities for growth

Even though an engineer will probably be doing the actual design work, make sure that he or she has all the information needed to ensure that facilities are being designed for growth. Give the engineer all known information on how the community plans to develop.

In addition to formal planning documents, such as a comprehensive plan or overall economic development plan, consider other known residential, commercial, and social service projects that are starting, such as new subdivisions, businesses relocating into the community or community center expansion. Discuss the following questions with the developer and the engineer:

- **How will new development impact infrastructure?** What will the demand on the water system be? What amount and type of wastewater will it generate? How many heavily loaded vehicles will be using the access road? How will the development affect stormwater runoff?

One community in southwest Washington built a new wastewater treatment plant in the early 1980s. From the day it opened, the plant could not meet the needs of its existing industrial customers, let alone the industries' plans for expansion. Poor planning data and a lack of good demand-based design were identified as the major reasons for the plants' problems.

- **Is there enough capacity (both in terms of quantity and quality) in the existing system to serve new development?** Does the well produce enough water? Can the wastewater treatment facility handle that loading? Can the access road accommodate that much more weight? Will the existing stormwater system be overwhelmed by runoff created by the new development?

- **What improvements will need to be made to accommodate the new development?** Does the community need to locate another water source or increase the size of the reservoir? Does the wastewater plant need another treatment stage? Is there a need to build a better access road? Will stormwater retention ponds be needed?

- **How much will the improvements cost?** Will it cost $20,000, $200,000 or $2,000,000?

- **Will the improvements benefit existing customers at all?** Will the improvements finally solve the community's demand issues? Will installing secondary treatment help the plant meet the needs of existing users? Will the improvements reduce vehicle traffic in another part of town? Will the improvements protect downhill properties from stormwater runoff?

- **Who will pay for the improvements?** Will the new residents pay for the improvements? Should existing residents and the new business share the costs? Can the costs be spread only among commercial or industrial users?

The GMA requires that communities maintain concurrency with determined levels of service. ***Concurrency:*** Capital facilities that achieve and maintain the level of service standards adopted in the comprehensive plan are available to serve new development no later than the impacts of the new development, except that adequate roads and transit improvements must be completed no later than six years after the impacts of development. Concurrency is determined by comparing the capacity required to the uncommitted capacity that is available[3]. If the capacity required to accommodate growth is inadequate, then the community has the choice of reducing level of service standards, adjusting land uses or increasing financial resources. ***Level of Service:*** (1) A measure of the amount of public facility that is provided. Typically, measures of levels of service are expressed as ratios of facility capacity to demand; (2) a gauge for evaluating the quality of service on the transportation system, most often described by travel times, freedom to maneuver, traffic interruptions, comfort, convenience and safety.

Many communities will not plan for growth and, as a result, have to answer these questions every time they are confronted with new development. Some communities will allow development until their facilities have no more excess capacity. This may soon be followed by a moratorium on further connections to the water or wastewater systems, which may cripple future development plans. A community that plans ahead will anticipate what kind of growth will take place and try to answer these questions in the planning phase.

When putting together a financing package (see Chapter 7), be sure that reasonable, foreseeable excess capacity needs are included.

[3] From *About Growth*, Washington Department of Community, Trade and Economic Development. "Big issues to resolve in a concurrency ordinance," by Randy Young, Henderson, Young, and Company, Summer 1994.

Growth is limited by the amount of excess capacity available

How much a community can grow depends on how much excess infrastructure capacity it has and the size of its urban growth area[4]. Engineers usually will create a basic design for infrastructure facilities to meet the needs of existing users, then expand the design to accommodate for some amount of growth. This is often called including some "excess capacity" in the facility. How much excess capacity the facilities have depends on what data the engineer considered.

Excess facility capacity can be restricted by many other factors beyond financing. Additionally, what might be considered excess capacity today, may not be so tomorrow. Lack of adequate water rights may prevent a community from expanding its water system and from having any excess capacity. The excess capacity of a wastewater treatment facility might be severely reduced after a total maximum daily load study is done on a nearby stretch of river. Watershed and other regional planning efforts may cause communities to look at excess capacity of a water treatment facility as barely enough to provide emergency relief to several smaller water systems in the area. While it is impossible to predict which events will have the most effect, keep in mind that excess capacity is a variable that changes in response to many outside influences.

Did the engineer:

- Look at existing needs and add a "contingency factor," such as 15 percent?
- Research population projections for the next 20 years and design facilities to meet those projected future needs?
- Anticipate how regulations might change in the future and design facilities to meet more stringent, future requirements?
- Consider the community and economic development projects that have been planned, estimate the demand these projects would place on the system and then design the facilities to include these planned projects?
- Look at phased development?

The amount of excess capacity can be measured in many different ways. Here are some examples:

- Excess quantity - for example: 5,000 more gallons of water per day
- Excess quality - for example: 10 more pounds of BOD[5] per day entering the wastewater treatment facility

Building excess capacity into facilities may require larger distribution or collection pipes, more durable materials or even more advanced technology. Such improvements may provide a need for excess capacity of 10 percent, 20 percent or more beyond the needs of existing users. Many engineers will design 10 or 15 percent excess capacity into facilities as standard practice, and many government funding programs will finance 10 percent excess capacity without much scrutiny. However, excess capacity beyond 10 percent may not be eligible for funding by some funding programs. Therefore, find out how much excess capacity has been designed into a system and what the added costs of providing that excess capacity are.

[4] Jurisdictions planning under the GMA must establish an urban growth area. Contact the Growth Management Program at the Department of Community, Trade and Economic Development at 360/753-2222 for more information.

[5] Biological oxygen demand.

Review the community's most recent capital facilities plan[6] (CFP). It may be a stand-alone document or an element in the community's comprehensive plan. Make sure that the CFP includes projects that will serve both existing and projected future users.

Check to see if the infrastructure facilities, as outlined in the CFP, will serve all of the planned projects called for in the comprehensive plan, such as economic development projects and new subdivisions. Most infrastructure facilities are designed to last at best 20 years with proper operation and maintenance. Consider how the community is expected to change over the next 20 years and whether the facilities have been designed to accommodate expected change. Most infrastructure plans include the design criteria that was followed when the plan was developed and the preliminary design performance of the recommended alternatives.

Determine what portion of the projected improvement costs will pay for existing needs and what portion will pay for excess capacity needs. For each capital improvement project listed in the CFP, look at the technology or materials listed. How was the level of technology or the quantity, size or type of the material adjusted to account for excess capacity? How much excess capacity did those adjustments provide? Is the excess capacity in terms of quantity or quality?

Who should pay for excess capacity?

Who will pay for infrastructure improvements needed by new users? Existing users? New users? Both? Can a public or private lender be a partner in financing the improvements?

In general, existing utility users should not pay for improvements from which they do not benefit. However, existing users can pay for a part of the total cost of improvements in the form of new construction. The costs should be proportional to the benefit received. In some cases, a government funding program may help pay for the costs. As explained above, many funding programs will pay for 10 percent excess capacity in facilities. New customers must pay for the remaining costs as they begin to use the system. Because of the costs involved, most communities do not include much excess capacity without having reasonable commitments from new users or developers.

The LOTT Partnership (which includes the cities of Lacey, Olympia and Tumwater and Thurston County) provides wastewater treatment facilities for much of north Thurston County. LOTT recently examined alternative ways to meet future needs. A preferred program has been selected. Extensive public input revealed that people thought that costs should be fairly distributed between new connection charges and monthly rates.

The tentative proposal outlines a split that places the main responsibility for paying for new facilities on new connections – growth paying for growth – while recognizing that the rate payers also benefit from reclaimed and recharged water that supplements water supplies.

The split also assumes that rate payers should be primarily responsible for system improvements that are required whether or not any new connections occur, yet also recognizes that some minimal costs to increase capacity will be included in some of those improvements. *LOTT is actually a series of interlocal agreements, approved by all four of its partner governments. Call 360/664-2333 for more information.*

[6] For guidance on preparing a CFP, contact the Department of Community, Trade and Economic Development Growth Management Program at 360/753-2222. For guidance on preparing a water system plan, contact the Department of Health at 360/586-5846. For guidance on preparing a general sewer plan or wastewater facilities plan, contact the Department of Ecology at 360/407-6000.

How much excess capacity will various government programs fund?

The process for calculating what portion of costs will benefit existing users and what portion primarily funds excess capacity does not have to be complicated. Estimating or making an educated guess is justifiable, especially if others are consulted to help refine the estimate. Ask the following people about their expectations for growth in the future and how much excess capacity will be needed: the public works director, economic development director, planner, budget staff, engineer, housing authority director and others who are involved in local and regional planning for your area.

Clean Water State Revolving Fund (CWSRF**)**: Up to the wastewater loading expected during the next 20 years.

Centennial Clean Water Fund (CCWF): Up to 110 percent of the existing wastewater loading[7].

Public Works Trust Fund (PWTF): Nothing beyond the needs of the current population at current standards. (For wastewater projects jointly financed with the CCWF, the 110 percent standard described above applies.)

Community Economic Revitalization Board (CERB): Traditional Program can fund the needs of the "bird in hand[8]" company; and the Rural Natural Resources (RNR) Program can fund speculative projects meeting certain threshold requirements.

Community Development Block Grant (CDBG): Nothing beyond the need documented in the community's comprehensive plan[9].

Drinking Water State Revolving Fund: Generally up to the 20-year growth projection included in the system's water system plan or small water system management program.

USDA Rural Development-Rural Utilities Service (USDA RD-RUS): Work needed to serve the reasonably foreseeable growth needs of the area to the extent practicable.

If money is not available from grant and loan programs to fund growth-related parts of projects, should a community ignore system improvements that are needed because of growth? The answer is "no". The community should find some other way to pay for those improvements, including impact fees, system development charges, latecomer agreements or other funding mechanisms. See Chapter 4 for more information on these funding mechanisms.

[7] The additional 10 percent can only be funded by a loan.
[8] "Bird in hand" means a business must be committed to relocating or expanding once the infrastructure improvements are made and other agreed-upon actions are completed.
[9] However, the CDBG program can also fund infrastructure to support new housing or job creation for low-income persons.

Exercise: Identify existing needs and excess capacity needs[10]

Blank worksheets are provided in Appendix A.
See Sample Worksheet 1-W below for an example of how to fill in these worksheets.

1. On Worksheet 1-W, estimate how much of the costs shown in column 8 will benefit existing users and how much will go toward providing excess capacity.
2. Write these amounts in columns 9 and 10, respectively. (Column 9 plus column 10 should equal column 8).
3. Write the total costs for meeting existing needs and providing excess capacity by phase in the last three rows of columns 9 and 10, respectively.
4. Repeat steps 1-2 for wastewater and transportation systems using *Worksheets 1-WW and 1-T.*

[10] Note: Only columns 9-10 in Worksheet 1 will be completed in this exercise. Columns 1-8 were completed in Chapters 1 and 2.

Sample Worksheet 1-W — Projected Costs for Water System Improvements by Project, Phase and Year

1	2	3	4	5	6	7	8	9	10
Project	***Total project cost (before any possible savings)***	***Project phase***	***Year***	***Phase cost***	***Possible savings***	***Source of savings***	***Total cost after savings***	***Costs for meeting existing needs***	***Costs for meeting excess capacity needs***
Test corrosion parameters and reduce corrosion in drinking water	$220,000	Planning	1999	$20,000	$18,000	in-house engineering	$2,000	$2,000	$0
		Pre-construction	1999	$40,000			$40,000	$40,000	$0
		Construction	1999	$160,000			$160,000	$160,000	$0
Highway 410 water line	$152,000	Planning	1999	$8,000			$8,000	$4,800	$3,200
		Pre-construction	1999	$0			$0	$0	$0
		Construction	1999	$144,000	$9,000	donated materials	$135,000	$81,000	$54,000
Leak detection and repair	$25,000	Planning	1999	$15,000	$7,000	ERWOW	$8,000	$8,000	$0
		Pre-construction	1999	$0			$0	$0	$0
		Construction	1999	$10,000			$10,000	$10,000	$0
Meter replacement	$52,000	Planning	2000	$0			$0	$0	$0
		Pre-construction	2000	$0			$0	$0	$0
		Construction	2000	$52,000			$52,000	$52,000	$0
Stabilize transmission line	$570,000	Planning	2000	$20,000			$20,000	$14,000	$6,000
		Pre-construction	2000	$50,000			$50,000	$35,000	$15,000
		Construction	2000	$500,000			$500,000	$350,000	$150,000
Correct water line intersection at Pearl and Ryan	$15,000	Planning	2001	$0			$0	$0	$0
		Pre-construction	2001	$0			$0	$0	$0
		Construction	2001	$15,000			$15,000	$15,000	$0
Install 1,000’ of 8” ductile iron pipe on A St.	$33,000	Planning	2002	$0			$0	$0	$0
		Pre-construction	2002	$3,000			$3,000	$2,400	$600
		Construction	2002	$30,000			$30,000	$24,000	$6,000
Design and construct 500,000 gal storage tank	$520,000	Planning	2004	$0			$0	$0	$0
		Pre-construction	2004	$20,000			$20,000	$10,000	$10,000
		Construction	2004	$500,000			$500,000	$250,000	$250,000
Total	$1,587,000	Planning		$63,000			$38,000	$28,800	$19,200
		Pre-construction		$113,000			$113,000	$87,400	$25,600
		Construction		$1,411,000			$1,402,000	$942,000	$460,000

Exercise: Identify system annual expenses

Blank worksheets are provided in Appendix A.
See Sample Worksheet 2-W below for an example of how to fill in these worksheets.

1. Using *Worksheet 2-W*, summarize the annual existing and "growth" needs for planning, pre-construction, and construction activities for the water system. Write the year at the top of each column, then add up the planning, pre-construction, and construction costs for each year (using the information from Worksheet 1-W).
2. Repeat step 1 for wastewater and transportation systems using *Worksheets 2-WW and 2-T.*

Sample Worksheet 2-W — Projected Costs for Water System Improvements by Phase and Year

	1999 (Year 1)		*2000 (Year 2)*		*2001 (Year 3)*		*2002 (Year 4)*		*2003 (Year 5)*		*2004 (Year 6)*	
	Existing needs	***Excess capacity needs***	***Existing needs***	***Excess capacity needs***	***Existing needs***	***Excess capacity needs***	***Existing needs***	***Excess capacity needs***	***Existing needs***	***Excess capacity needs***	***Existing needs***	***Excess capacity needs***
Planning costs	$14,800	$3,200	$14,000	$6,000	$0	$0	$0	$0	$0	$0	$0	$0
Pre-construction costs	$40,000	$0	$35,000	$15,000	$0	$0	$2,400	$600	$0	$0	$10,000	$10,000
Construction costs	$251,000	$54,000	$402,000	$150,000	$15,000	$0	$24,000	$6,000	$0	$0	$250,000	$250,000

Chapter 4

Local Revenue

Many infrastructure improvement projects are paid for with money that is generated locally through taxes or utility rates. This locally-generated money, or revenue, is deposited in different municipal funds, depending on how the money was raised. Revenue in different municipal funds can be used for different types of projects. For example, taxes deposited in a city's general fund can be used for transportation system improvements[1]. Cities can also use general fund dollars for water and wastewater system projects. However, cities can only use money in the water fund, from water rates and charges, for water system projects, not for any other type of project. The same rules apply to the wastewater fund.

User *rates* should pay for services from which all users on a particular system benefit, while special *fees* are usually used to finance growth-related improvements. Some examples:

Extension fees pay for the costs of extending transmission mains and installing related facilities to serve unserved areas; *Connection/hook-up fees* pay for the costs of adding a connection and paying a pro-rated portion of existing facilities cost; *Impact fees* can help recover the costs of facilities need for new growth; *Latecomer agreement fees* split the costs of over-sizing between the system and a developer; and *Special assessments* can pay for localized or specialized improvements. *Available only to counties and cities fully planning under the Growth Management Act.*

Local governments often do not budget for capital facility replacement. To do this, governments should calculate the full annual rate of deterioration of all capital facilities and save that much each year for future replacement. Doing so would help ensure that current rate payers and taxpayers are paying for their use of the facilities.

Revenue generated by new growth in the community should pay for all infrastructure improvements demanded by the new growth, plus the wear and tear that the expansion imposes on existing infrastructure.

Revenue for water and wastewater system improvements

Local governments in Washington can finance water and wastewater system improvements using the local revenue sources listed in Table 4-1.

Revenue for transportation system improvements

Local governments in Washington can finance transportation system improvements using the local revenue sources listed in Table 4-2.

[1] Many jurisdictions also have a separate "street fund" for transportation system improvements.

The City of Burlington (population 5,445) began charging certain types of impact fees in 1996. A park impact fee is charged for commercial development at a rate of $200 per 1,000 square feet. This new revenue source has enabled the city to develop its parks to a much greater extent than it would have been able to do otherwise. The city believes that a good park environment helps to create a good commercial environment.

Burlington also charges an impact fee to developers building in the vicinity of a new bridge at a rate of $35 per peak-hour trip generated. The public works department has found that this has helped the city in obtaining grant funding for the new bridge, because it demonstrates private contribution toward the project.

The city's impact fee credit program has also created an opportunity for land donation to parks and open space. This program provides a way to cost-effectively preserve wetlands and other sensitive areas, and to gain more park land in general.

For more information on revenues that can be used for transportation system improvements, see the following:

- *The Tax Reference Manual: Information on State and Local Taxes in Washington State*, Washington State Department of Revenue, Olympia, Washington, January 1996;
- The Municipal Research and Services Center website at www.mrsc.org. Go to the finance page for information on county revenues; and
- *The Revenue Guide for Washington Clerk-Treasurers*, MUNICIPAL RESEARCH & SERVICES CENTER, Seattle, Washington, call 206/ 625-1300, or go to www.mrsc.org.

Revenue for other types of infrastructure improvements

Some local and outside revenue sources for stormwater system improvements and on-site septic system programs are summarized in Appendix F.

Table 4-1 — Local Revenue Sources for Water and Wastewater System Improvements

Type of revenue	*Description*	*Who can legally use this type of revenue?*	*Most appropriate for funding existing needs or excess capacity needs?*
General purpose revenues in the general fund	Revenues from non-dedicated property tax, business and occupation tax, sales tax, and other sources that are considered general purpose revenues but are being used for capital facilities.	• Counties • Cities	Existing needs and excess capacity needs.
Special assessments	Levied on property.Used when property owners within a local improvement district[2] (LID) receive more benefit from a specific capital improvement than the general public.	• Counties • Cities • Some special districts	Existing needs and excess capacity needs.
Real estate excise tax[3] (REET)	Tax levied on real estate sales. All cities may levy a quarter percent (0.25 percent) tax, and cities planning under the GMA also have the authority to levy a second quarter percent tax.	• Counties • Cities	Certain existing needs described in the jurisdiction's capital facilities plan.
Utility rates and fees	Money paid by existing users of a water or wastewater system.	• Counties • Cities • Special districts	Existing needs and excess capacity needs.
System development charges [4] and hookup fees	One-time charges to developers or new utility customers, which allow a utility to recover part or all of the cost of having system capacity available for new users.	• Counties • Cities • Special districts	Excess capacity needs.
State Environmental Policy Act[5] (SEPA) mitigation fees.	Fees charged to develops to mitigate the general or specific effects of a project.	• Counties • Cities	Excess capacity needs

[2] For more information on LIDs, see the *Washington State Local Improvement Guide, Fourth Edition*, Association of Washington Cities (AWC), American Public Works Association – Washington State Chapter, Municipal Research and Services Center, October 1996. Also see Chapter 3 of the *Washington Municipal Financing Deskbook*, Roy J. Koegen, Lawyers Cooperative Publishing, 1993.
[3] See Chapter 82.46 RCW for more information on real estate excise tax.
[4] System development charges are also known as facility expansion charges, utility expansion charges and capacity charges.
[5] RCW 43.21C

4-1 — Local Revenue Sources for Water and Wastewater System Improvements (cont'd)

Type of revenue	*Description*	*Who can legally use this type of revenue?*	*Most appropriate for funding existing needs or excess capacity needs?*
Retained local option sales and use tax revenues	Funds may be used for public facilities such as bridges, roads, water facilities, sewer facilities, telecommunications infrastructure, and other similar facilities that have an economic development purpose/outcome—job creation, retention and/or expansion. For a county planning under the Growth Management Act (GMA) the assisted public facility must be listed in the county overall economic development plan (OEDP), economic development element of the county comprehensive plan, or city/town comprehensive plan. For a county without an OEDP that is not planning under the GMA, the public facility must be listed in the county, city, or town capital facilities plan *Contact: Department of Revenue (DOR) 1-800-647-7706*	• Counties with population densities of fewer than 60 people per square mile may retain .08% of the state's share of the local option sales/use tax, effective August 1999 • Counties with population densities between 50 and 100 per square mile may retain .08%, effective January 2000.	

Table 4-2 — Local Revenue for Transportation System Improvements

Type of revenue	*Description*	*Who can legally use this type of revenue?*	*Most appropriate for funding existing needs or growth needs?*
General purpose revenues in the general fund	Revenues from non-dedicated property tax, business and occupation tax, sales tax and other sources that are considered general purpose revenues but are being used for capital facilities.	• Counties • Cities	Existing needs and excess capacity needs.
Road or street fund	Revenues from gas tax, county road funds and other sources dedicated to road and street uses.	• Counties • Cities	Existing needs and excess capacity needs.
Local option transportation taxes	Cities and counties may impose local transportation taxes.	• Counties • Cities	Existing needs and excess capacity needs.
"106 percent levy lid lift"	Cities and counties can ask voters for approval to raise the regular property tax rate above the "106 percent lid"[6] for a specified purpose. This is appropriate for transportation improvements, but less appropriate (although legal) for water or wastewater improvements. This is "pay-as-you-go," although you can borrow against it for up to nine years.	• Counties • Cities	Existing needs and excess capacity needs.
Special Assessments	Levied on property. Used when property owners within a LID receive more benefit from an improvement than the general public.	• Counties • Cities • Some special districts	Existing needs and excess capacity needs
REET[7]	Tax levied on real estate sales. All cities may levy a quarter percent (0.25 percent) tax, and cities planning under the GMA also have the authority to levy a second quarter percent tax.	• Counties • Cities	Certain existing needs described in the jurisdiction's capital facilities plan.

[6] Contact the MUNICIPAL RESEARCH & SERVICES CENTER for more information about the "106 percent lid" at 206/625-1300 or *www.mrsc.org*
[7] See Chapter 82.46 RCW for more information on real estate excise tax.

Table 4-2 — Local Revenue for Transportation System Improvements

Type of revenue	*Description*	*Who can legally use this type of revenue?*	*Most appropriate for funding existing needs or growth needs?*
SEPA [8] mitigation fees	Fees charged to developers to mitigate the general or specific effects of a project.	• Counties • Cities	Excess capacity needs.
Impact fees[9] (as authorized under the GMA[10])	Fees charged to developers and new customers can only be used for improvements listed in a city or county's comprehensive plan for roads, parks, schools and fire facilities that are not part of a fire district. Must be used for capital facilities needed by growth, not for current deficiencies in levels of service or operating expenses. Must show a "rational nexus of benefit" between the payer of the fee and the expenditure of the fee, but may be used for system-wide improvements, not just those near the planned development.	• Counties planning under GMA • Cities planning under GMA	Excess capacity needs.
Motor vehicle fuel tax (MVFT)	Taxes on gasoline collected by the state and distributed by formula to counties and cities.	• Counties • Cities	Existing needs or excess capacity needs.
Retained local option sales and use tax revenues	Funds may be used for public facilities such as bridges, roads, water facilities, sewer facilities, telecommunications infrastructure, and other similar facilities that have an economic development purpose/outcome—job creation, retention and/or expansion. For a county planning under the Growth Management Act (GMA) the assisted public facility must be listed in the county overall economic development plan (OEDP), economic development element of the county comprehensive plan, or city/town comprehensive plan. For a county without an OEDP that is not planning under	• Counties with population densities of fewer than 60 people per square mile may retain .08% of the state' share of the local option sales/use tax, effective August 1999	

[8] RCW 43.21C.
[9] RCW 82.02.050
[10] RCW 36.70A.

Table 4-2 — Local Revenue for Transportation System Improvements

Type of revenue	*Description*	*Who can legally use this type of revenue?*	*Most appropriate for funding existing needs or growth needs?*
Retained local option sales and use tax revenues	the GMA, the public facility must be listed in the county, city, or town capital facilities plan *Contact: Department of Revenue (DOR) 1-800-647-7706*	• Counties with population densities between 60 and 100 per square mile may retain .08% effective January 1, 2000	

Chapter 5

Bonds, Debt Capacity, and Short-Term Financing

Long-term financing options

Local governments can use long-term financing for new construction or major capital replacement projects but not for on-going operation and maintenance (O&M) expenses. Current revenues should be used to pay O&M expenses.

As a general rule of thumb, any debt repayment term should be approximately equal to the useful life of the facility that is financed. The people that will benefit from the facility over its useful life should share the cost of the facility.

Advantages of long-term financing	***Disadvantages of long-term financing***
• Projects can be completed when they are needed. Repayment can be made while the facility is being used. • The cost of the project is spread over more than one generation of beneficiaries and newcomers. • Repayment will be in cheaper dollars than full payment up front would be if the economy is expanding or per capita income increases. • Debt service payments are known and predictable.	• The cost for the use of money (interest) must be added to the total cost of the project. • Future revenues are dedicated to the repayment of debt and are therefore not available for other uses if there is an emergency. • Depending on the type of debt, there are practical and legal limits on the amount of debt that can be issued.

There are two major ways to borrow money for infrastructure projects: *bonds* and *loans*. Major features of municipal bonds are outlined below. Government and commercial loans are discussed in Chapter 6.

Many of the firms that help local governments issue bonds are listed in the *Bond Buyer's Municipal Marketplace*, also known as the "Red Book." This useful directory of service providers is published semi-annually.

Local governments that do not have established, satisfactory relationships with bond service providers should use a "Request For Proposals" process to select service providers. Be sure to follow appropriate procurement regulations when selecting service providers.

A community may wish to contact neighboring local governments for recommendations of service providers that they have worked with before in the past.

The Bond Buyer's Municipal Marketplace, Thomson Financial Publishing, Skokie, Illinois

Municipal bonds[1]

A local government can use bonds to borrow money for an infrastructure construction project and spread the repayment over many years. A bond investor[2] (usually via an underwriter) pays the bond issuer (the local government) a certain amount of money, and the bond issuer promises to repay the borrowed amount plus interest according to a set schedule.

Depending on the type of bond issued, local governments repay this debt with user rates, fees, taxes or other sources of revenue. The interest a local government pays on a bond is the "return" paid to bond buyers. Because the interest earned on most government bonds is exempt from federal income tax, bondholders are usually willing to accept a lower rate of return, such as lower interest rate, on their investment than they could get on a comparable commercial (taxable) bond. Therefore, bond financing can provide local governments with low-interest money to use for infrastructure improvements.

Getting outside assistance with issuing a bond

A bond issue can be a complicated process, especially when bonds are used in conjunction with other funding sources. Every local government should hire outside professionals to assist with issuing a bond. These professionals usually include a financial advisor, bond counsel and underwriter, and may include a paying agent/registrar, printer and others.

Table 5-1 outlines the main functions of financial advisors, bond counsel and underwriters[3].

[1] For more detailed information on municipal bonds, contact a financial advisor, underwriter or bond counsel.
[2] The biggest investors in municipal bonds include households in higher tax brackets, mutual funds, property and casualty insurance companies and commercial banks.
[3] For more detailed information, contact firms which provide these services.

Table 5-1 - Comparison of the Roles of Service Providers

Service Provider	*Source*	*Role*	*Ways to Pay for Services*[4]
Financial Advisor	• Independent financial advisory firms. • Investment banking firms. • Commercial banks. • Financial advisory firms that are subsidiaries of commercial or investment banks.	• Assists issuer with evaluating all potential funding sources. • Assists issuer with hiring other service providers. • Assists bond counsel. In a **competitive sale**: • Prepares the official statement. • Structures the bond issue. • Advises the issuer on bond rating presentation. • Prepares the notice of sale. • Evaluates the bids on the day of the sale. In a **negotiated sale**[5]: • Assists issuer in selecting an underwriter. • Negotiates fees with underwriter on behalf of issuer.	• Flat fee for the entire job. • Hourly wage. • Percentage of the amount of the bond sale.
Bond Counsel	• A law firm that specializes in municipal law and tax law.	• Assures investors that the bonds are valid and legally binding obligations of the issuer. • States whether the interest on the bonds is exempt from state and/or federal income tax.	• Flat fee for the entire job. • Hourly fee. • Percentage of the amount of the bond sale (this type of arrangement is rare).
Underwriter	• Investment banking firm. • A commercial bank. • The securities subsidiary of a commercial bank.	• Buys bonds from issuers and re-sells to investors. In a **competitive sale**, underwriter's role is limited: • Underwriter is usually not known until bids are opened and the award is made; and • May form a syndicate of a group of securities firms. In a **negotiated sale**, underwriter works with issuer during entire issuing process: • Surveys the market to see what debt structure and other features investors are looking for; • Structures the bond issue; • Prepares preliminary official statement; and • Advises the issuer on bond rating presentation. • Markets the bond.	In a **competitive sale** underwriter's compensation is built into its bid (the underwriter's discount or spread is the difference between the price they pay for the bonds and the price for which they plan to sell the bonds). In a **negotiated sale** underwriter is paid an underwriting spread consisting of four components: • Take-down (underwriter's commission for selling the bonds); • Management fee; • Expenses; and • Underwriting fee or risk.

[4] Ideally, payment method should ensure there are no conflicts of interest.
[5] Note: Many cities in Washington do not use a financial advisor in a negotiated sale; the underwriter performs many tasks instead.

Types of municipal bonds

Many types of bonds may be used for infrastructure construction projects, although general obligation (GO) bonds, revenue bonds and special assessment bonds are most commonly used. Table 5-2 summarizes the major characteristics of each of these types of bonds.

General obligation (GO) bonds

Cities, towns, counties, and special districts with taxing authority can issue general obligation (GO) bonds. GO bonds are backed by the full faith and credit of the issuing local government. The issuer, such as the local government, promises to levy a tax, typically a property tax, to repay the bond investor. Bond investors have a legal claim on all the general income of the issuer if default occurs. Washington State allows two types of GO bonds:

Limited tax general obligation bonds[6] (also referred to as LTGO bonds, councilmanic bonds, or non-voted bonds) do not require voter approval. LTGO bonds may be issued by a vote of the governing body[7]. The issuer's general tax levy and other general fund revenue sources are used to pay the debt service on LTGO bonds.

Unlimited tax general obligation bonds[8] (also referred to as UTGO bonds or voted bonds) must be approved by 60 percent of the voters, with a voter turnout that is at least 40 percent of those voting in the most recent general election. UTGO bonds require voter approval because they are repaid with property tax revenues that are in excess of the general property tax levy limit.

Local governments are subject to constitutional and statutory limits on the amount of GO bond debt that can be incurred. For example, cities and counties are limited to LTGO debt of 1½ percent of the value of taxable property within the jurisdiction. The total of LTGO and UTGO debt is limited to 2½ percent of the value of taxable property, with extra debt capacity available for parks and for city utilities[9].

Revenue bonds

Revenue bonds are most appropriate for financing water or wastewater system projects or projects that are a part of any other city enterprise that generates revenue. The revenue stream generated by the utility or enterprise pays debt service on revenue bonds. For example, a revenue bond that finances new water distribution lines is repaid using revenues from the water utility (i.e., water rates and charges).

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[6] RCW 35.22.280(4) and RCW 35.37.040.
[7] Some local governments require a super-majority to do this.
[8] RCW 35.22.280(4) and RCW 35.37.050.
[9] See section entitled "Debt Limits" later in this chapter.

Revenue bonds do not require voter approval and they are not subject to debt limits like GO bonds are. Revenue bonds are considered less secure than GO bonds by bond investors because revenue bonds are not backed by the full faith and credit of the local government. Therefore, interest rates on revenue bonds are usually higher than interest rates on GO bonds. Issuance costs for revenue bonds also tend to be higher than issuance costs for GO bonds.

Although revenue bonds do not count against a local government's debt limit, the market effectively imposes a limit on the amount of revenue bond debt a local government can issue based on credit factors.

Most local governments in Washington use revenue bonds for water and sewer projects instead of GO bonds. GO bonds are usually used for projects that benefit the entire community. Revenue bonds are used for systems that have identifiable users. Because only the users of the system are required to repay revenue bonds, this is considered a fair way to finance infrastructure improvements.

Covenants

Revenue bond "covenants" can limit the amount of debt issued by requiring the issuer to promise to do (or not do) something. For example, if a local government is issuing bonds for its wastewater utility, bond investors want to be sure that more bonds will not be issued in the future unless the wastewater utility's revenue stream can pay the additional debt service.

Coverage

Bond investors are also interested in the "coverage" or "coverage ratio" of the bond. The coverage ratio measures whether the utility has enough revenue to pay the principal and interest on its loans and bonds, with enough money left over after payment of operations and maintenance, as well as debt service, to pay for some portion of the utility's capital plan and unexpected problems.

Investors look at the anticipated net income of a utility and compare the net income to the debt service requirements to see how much of a cushion, or coverage, the bonds have. For example, if coverage of 1.3 is required, this means that the anticipated net income must be 1.3 times greater than the debt service requirement. A minimum coverage level is usually required by a revenue bond covenant. If coverage falls below that minimum level, the bonds are considered to be in technical default. Generally, the terms of a revenue bond require a coverage ratio of 1.25 or higher. Rating agencies and bond investors typically expect to see coverage ratios in excess of the coverage requirement.

A utility's rates should be structured so that enough revenue is generated to maintain the required coverage ratio. Most utilities generate revenue in excess of the coverage requirement.

Reserve funds

In addition to coverage, one or several reserve funds may also be required. These reserve funds give the bond investor additional security. Reserve funds are funded either as part of the bond issue or with current revenues over pre-determined number of months. An alternative to actually depositing funds in the reserve account is to get reserve insurance for the necessary amount.

The amount in the debt service reserve fund that may be funded with bond proceeds is limited by the Internal Revenue Code.

"Double-barreled" bonds

If there is enough debt capacity available, local governments may sometimes choose to back their utility bonds with an additional promise to repay using general fund tax revenues. This type of bond is referred to as a "double-barreled" bond. The utility's revenues are used first to repay the bond, but if the revenue stream from the utility is inadequate, general fund revenues are available to be used. A double-barreled bond will have the same credit rating as a GO bond, will have interest rates similar to a GO bond, and will not require a reserve fund. Double-barreled bonds do not require voter approval.

Special assessment bonds

LIDs are formed to repay "special assessment bonds," which finance the construction of a public improvement where specific property owners receive greater benefit from the improvement than the general public. Special assessment bonds are repaid through a special assessment on the property owners that benefit from the project. Special assessment bonds usually need a "guaranty fund" to function like a reserve fund.

There are several types of LIDs in Washington, including utility LIDs[10] (ULIDs), county road improvement districts[11] (RIDs), business improvement districts (BIDs), and local utility districts (LUDs). ULID bonds are payable both from special assessments and from rate revenue of the relevant utility.

[10] Chapters 35.43 & 36.94 RCW.
[11] Chapter 36.88 RCW.

Refunding bonds[12]

Refunding bonds can be issued to replace and refinance outstanding GO bond and revenue bonds[13], and special assessment bonds that were issued after June 7, 1984[14]. Local governments primarily use refunding bonds to gain a better interest rate (similar to re-financing a house) when current rates are lower than the rates on the outstanding bonds. In addition, refunding bonds can be used for other purposes, such as to shorten the term of the bond issue, to reorganize a system's debt, or to remove or change covenants on a revenue bond. (See the section earlier in this chapter on revenue bond covenants.)

[12] Information in this section based on *A Debt Primer for Washington's Cities and Towns*, MRSC. Kirkland, Washington, August 1994.
[13] Chapter 39.53 RCW.
[14] RCW 35.45.170. However, LID bonds are rarely refunded.

Table 5-2 - Summary of bond characteristics[15]

Type of bond/ Explanation	*Source of repayment*	*Advantages*	*Disadvantages*
GO bond *Most appropriate for roads, parks and other projects that do not generate revenue.*	Backed by full faith and credit of the issuing local government.	Advantages of all GO bonds: • Lower interest rates than other types of bonds because of low risk. • Strong market acceptance. • Structuring flexibility. • No reserve fund requirement. • Issuance costs usually lower than other kinds of debt.	Disadvantages of all GO bonds: • State laws limit the amount a city can borrow through a bond issue. • Takes time - difficult to enter the market quickly. • Bonds will lower debt capacity of issuing local government.
Non-Voted GO Bonds (Councilmanic Bonds) *Can pay for real property and personal property.*	General fund revenues.	• No public vote is required; only a vote of the governing body.	• Uses regular property tax revenue, so future general fund expenditures for alternate purposes are limited.
Voted GO Bonds *Can be used for capital purposes, but not for replacing*[16] *equipment.*	Excess levies on property.	• Is accompanied by a special excess tax levy so does not limit future general fund expenditures.	• Difficult to get people to vote to raise property taxes. • Expense and time associated with holding a bond election.

[15] This table is based on several sources of information, including *Comprehensive Guide to Water and Wastewater Financing and Pricing*, Second Edition, by George A. Raftelis, Second Edition, Lewis Publishers, 1993; *Debt Issuance and Management: A Guide for Smaller Governments*, by James C. Joseph, Government Finance Officers Association, 1994; and *A Debt Primer for Washington's Cities and Towns*, MRSC, Kirkland, Washington, August 1994.

[16] It is sometimes difficult to determine what constitutes a replacement. Consult bond counsel.

Table 5-2 - Summary of bond characteristics[15]

Type of bond/ Explanation	*Source of repayment*	*Advantages*	*Disadvantages*
Revenue Bond *Most appropriate for financing utilities or enterprises that generate revenue.*	Revenue stream of the utility or enterprise of which the project is a part (includes user rates and fees).	• Bond election is not required. • Does not affect the debt capacity of the local government. • General government services are protected from bankruptcy. • System users pay for system improvements.	• Slightly higher interest rates than GO bonds. • Higher issuance costs than GO bonds. • Stricter legal requirements for issuing revenue bonds. • May include restrictive covenants, including coverage covenants. • Greater risk of default due to uncertainty of revenue stream. • Reserve funds must be established.
Double-barreled Bond	Utility revenues are used first, but if these are inadequate, general fund reserves are used.	• Same credit rating as a GO bond. • Similar interest rates to a GO bond. • No need for a reserve fund.	• General fund revenues used if revenue stream from utility is not adequate to repay. • Bonds will lower debt capacity of issuing local government because the entire amount counts against the legal debt capacity limit.
Special Assessment Bond *LIDs can be used for many types of projects, including but not limited to water and sewer, streets, and sidewalks.*	Special property tax assessment on property that benefits from the project.	• The debt burden is on the people who benefit from the project. • Bond election may not be required. • Not restricted by a city's debt limit.	• Higher interest rates than GO bonds due to higher risk; bond market is concerned about defaults. • Property owners can protest LID formation, delaying project. • More complex than GO bonds. • Limited revenues to secure debt. • Potential investor base is declining.

Table 5-2 - Summary of bond characteristics[15]

Type of bond/ Explanation	*Source of repayment*	*Advantages*	*Disadvantages*
Refunding Bond *Used to pay off outstanding bonds to get a better interest rate, to shorten the term, to reorganize system debt, or change covenants.*	Same source of revenue that was used to pay off original bond.	• Bond election may not be required. • Probably will save system money by reducing interest. • May be able to remove restrictive covenants on revenue bonds.	• Cost of additional bond issue. • Additional accounting workload.
Private Activity Bonds (Exempt Facility Industrial Revenue Bonds)[17] *A special type of revenue bond issued by a public entity to finance non-governmental activities.*	Private sector company's payments to the issuer.	• Because the issuer's bonds have tax-exempt status, the costs to the private firm will be less than if it issued bonds on its own	• There is a state cap on the amount of tax-exempt private activity bonds that can be issued in any one year. Contact the Bond Cap Allocation Program at the Department of Community, Trade and Economic Development 360/753-0307 for more information.

[17] Not used for transportation system improvements. Rarely used by cities and counties. Usually done by port districts and public utility districts.

Costs associated with issuing a bond

Bond issues can be expensive because fees and expenses have to be paid in addition to the borrowed amount and interest. Typical fees and expenses include the underwriter's discount, fee for bond counsel or financial advisor, printing disclosure documents and holding a bond election if it is a voted GO bond. Some fees are fixed, independent of the size of the bond issue. Contact a financial advisor to get an idea of the fees charged by service providers.

When deciding whether it would be cheaper to issue bonds to market investors or to borrow from a bank, compare the total interest that would have to be repaid for a loan with the total amount of interest, fees and expenses that would have to be paid with a bond issue. Of course, other considerations may also affect the decision.

Factors that influence interest rates

Bond interest rates, like home mortgage rates, change according to market forces. Interest rates are also affected by other factors, including:

- Whether it is a fixed rate or variable rate bond;
- The term of the bond;
- Whether it qualifies as tax-exempt; and
- The bond rating, which reflects risk to investors.

Does bond financing make sense? [18]

Local governments should consider the following factors when determining whether bonds or some other form of long-term financing should be used when putting together a system finance plan:

- Are other funding sources available? A bond issue should not be planned until other potential funding sources have been explored;
- How much debt can the city incur? The amount of long-term general obligation debt a city can carry is limited. This may prevent the use of GO bonds for infrastructure projects. Instead, revenue bonds, or some other sources of funding may be needed;
- How quickly is funding needed? A public vote is often required before a bond can be issued. Bond issues can only be approved at special elections. A project can be delayed several months before a vote is held. However, funding agencies may take longer to review applications; and How much will it cost? The costs involved in issuing a bond may make bonds (especially smaller bonds) a less attractive funding source.

[18] This section is based on the article, "Using Bonds to Finance Construction," by P.J. Cameon, from *Water Sense*, a newsletter of the National Drinking Water Clearinghouse, Volume 2, Issue 4, Fall 1996.

Other questions to consider:

General Obligation (GO) Bonds

- For voted bonds – will there be enough community support for the bond?
- For non-voted (councilmanic) bonds – is there enough general fund revenue expected to cover the bond repayment costs?

"Debt" for debt capacity purposes is defined as any obligation incurred that will not be repaid within the fiscal year in which it was incurred.

Revenue Bonds

- Is there enough coverage? (The coverage ratio measures whether the utility has enough revenue to pay the principal and interest on its loans and bonds, with enough money left over to pay for unexpected problems.)
- Can the community live with the covenants? (Covenants require the issuer to promise to do, or not do, something.)

Special Assessment Bonds

- Is more development planned in the same area in the future?
- Does your community have the capacity to collect and distribute reimbursements for a LID for the next 15 years?
- What kind of support is there among property owners?
- Can the local government contribute to a portion of the project? Can the local government and the property owners in the LID share the costs? This may make the LID more feasible.

Refunding Bond

- Does a cost-benefit calculation show that issuing another bond outweighs the interest saved and/or benefits received from removing or changing a covenant?

Debt Limits

Debt limits vary depending on the type of debt and the type of local government that is issuing the debt. The term "debt limit" refers to the statutory and constitutional limit (the legal limit) on the principal amount of general obligation debt that an issuer may incur or that it may have outstanding at any one time[19]. However, there are also "practical" limits to the amount of general obligation debt (and other kinds of debt) that can be issued by a local government. Both legal and practical limits for different types of debt are explained below.

[19] *Washington Municipal Financing Deskbook, Second Edition*, by Roy Koegen, Lawyers Cooperative Publishing, 1993.

General obligation debt limits

As explained earlier in this chapter, GO bonds are backed by the full faith and credit of the issuing local government. The issuer promises to levy a tax (usually a property tax) to repay the bond investor.

General obligation loans made to cities from federal and state government funding programs are not subject to statutory debt limits, but they are subject to state constitutional debt limits. *RCW 39.36.060. Contact the Municipal Research & Services Center at 206/625-1300 for more information.*

Legal limits[20]

The amounts that a local government can borrow using general obligation debt and the purposes for which it can borrow are controlled by both statute[21] and the state constitution[22]. Debt limits set the maximum amount of general obligation debt that a local government can have outstanding at any one time and restrict how much of this capacity can be used for various purposes.

There are three categories of legal general obligation debt capacity for cities. Each category is equal to 2.5 percent of the city's assessed valuation:

- "General Purpose" debt capacity can be used for general government purposes; includes a mixture[23] of voted general obligation debt[24] and non-voted general obligation debt;
- "Utility Purpose" debt capacity can be used to provide municipally owned water, sewer or electric facilities; includes only voted general obligation debt[25];
- "Parks Purpose" debt capacity can be used for providing open space and parks; includes only voted general obligation debt[26].

Practical limits

Just because a local government has the legal authority to issue a certain amount of general obligation debt, it does not mean that the legal maximum amount should be borrowed. One reason is that a local government may not be able to afford to pay debt service on the maximum amount of debt allowed by law. Be sure to consider the tax burden placed on citizens by other taxing districts (e.g., school, port, or library districts), as well.

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[20] This section is based on *A Debt Primer for Washington's Cities and Towns*, Municipal Research & Services Center, Kirkland, Washington, August 1994.
[21] RCW 39.36.020.
[22] Washington Constitution Article 8, Section 6.
[23] Non-voted general obligation debt is limited to a maximum of 1.5 percent of assessed valuation; the voted general purpose debt capacity and the councilmanic debt capacity must always be less than or equal to 2.5 percent.
[24] For all voted debt, an election must be held, at which 60 percent of the people must vote favorably. The voter turnout must be equal to at least 40 percent of the voter turnout at the last general election.
[25] Ibid.
[26] Ibid.

If a bond rating agency thinks a local government is borrowing more than it can afford to repay, the local government's bond rating will go down and the interest rates that will have to be paid on the bond will go up.

Revenue bond debt limits

There are no legal debt limits for *revenue bonds*. However, if a local government chooses to back a revenue bond with an additional promise to repay using general fund revenues (making it a "double-barreled bond" – see earlier section in this chapter), then the entire bond amount counts against the city's legal debt capacity.

However, the bond market does practically limit the amount of revenue bonds an entity can issue based on credit factors. Bond covenants relating to coverage requirements or the issuance of additional bonds can also limit the amount of bonds an entity can issue.

Special assessment bond debt limits

Bonds payable from special assessments on property within a local improvement district are not general obligations that are backed by the full faith and credit of the issuing local government, and so are not subject to the same statutory and constitutional debt limits as GO bonds. However, property owners within the LID must be able to afford to repay their portion of the bond issue.

General obligation debt capacity

Local governments planning to issue a GO bond should determine their total and remaining legal general obligation debt capacity. Calculating a jurisdiction's total and remaining debt capacity is complicated and a full discussion is beyond the scope of this manual. Local governments are encouraged to obtain outside assistance from bond counsel or other advisors[27]. However, a brief overview is given below. Worksheet 2 may be helpful in determining remaining legal debt capacity.

Remaining legal debt capacity is equal to total debt capacity minus the amount of debt already issued plus certain net assets available for debt service funds (also known as debt redemption or sinking funds):

Remaining legal debt capacity = Total debt capacity – Debt already issued + Net assets

When debt capacity is calculated, net assets include cash on hand in the GO bond redemption fund and taxes levied for payment of GO bonds (both current and delinquent).

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[27] For more information on debt limits and calculating debt capacity, contact bond counsel or the MRSC at 206/625-1300.

Worksheet 2 — Calculation of general obligation debt capacity

Assessed value (AV) of taxable property	$_____
General Purpose Legal Debt Limit (combination of voted and non-voted)	
Non-voted legal debt limit (can be up to 1.5%of AV) = ___%	
Total non-voted general purpose legal debt limit = ___% x AV =	***$_____***
Less: Outstanding non-voted debt (bonds, notes, etc.)	($_____)
Less: Contracts payable (lease-purchases, conditional sales contracts)	($_____)
Plus: Available net assets in debt service fund	$_____
Equals: ***Remaining non-voted debt capacity for general purposes***	***$_____***
Voted limit = 2.5% minus non-voted legal debt limit = ___%	
Total voted general purpose legal debt limit = ___% x AV =	***$_____***
Less: Outstanding voted debt	($_____)
Less: Contracts payable (lease-purchases, conditional sales contracts)	($_____)
Plus: Available net assets in debt service fund and excess taxes levied for repayment	$_____
Equals: ***Remaining voted debt capacity for general purposes***	***$_____***
Utility Purpose Legal Debt Limit (voted)	
Total utility purpose legal debt limit = 2.5% x AV =	***$_____***
Less: Outstanding voted debt	($_____)
Less: Contracts payable (lease-purchases, conditional sales contracts)	($_____)
Plus: Available net assets in debt service fund and excess taxes levied for repayment	$_____
Equals: ***Remaining debt capacity for utility purposes***	***$_____***
Parks Purpose Legal Debt Limit (voted)	
Total parks purpose legal debt limit = 2.5% x AV =	***$_____***
Less: Outstanding voted debt	($_____)
Less: Contracts payable (lease-purchases, conditional sales contracts)	($_____)
Plus: Available net assets in debt service fund and excess taxes levied for repayment	$_____
Equals: ***Remaining debt capacity for parks purposes***	***$_____***

Short-term financing

Local governments can use various short-term financing mechanisms to raise temporary cash to begin infrastructure improvement projects before permanent financing is obtained.

Notes[28]

Short-term bonds are called "notes." Municipal notes usually have a maturity of between one and five years. Notes are usually issued in much larger denominations than bonds. In cities, the issuance of notes must be authorized by an ordinance.

RCW 39.50 authorizes the following types of short-term obligations:

Bond anticipation notes

Bond anticipation notes (BANs) are used to provide startup cash for projects before long-term bonds are issued. They may also be used to finance a project while waiting for interest rates to become more favorable. If the anticipated bond is a voted GO bond, the BAN may not be issued before the authority to issue bonds is in place.

If BANs are issued in anticipation of GO bonds, they are subject to debt limitations, but BANs issued in anticipation of revenue or special assessment bonds do not affect a city's debt capacity.

Revenue anticipation notes

Revenue anticipation notes (RANs) are generally issued in anticipation of revenues (other than tax revenues) by an issuing utility. RANs are not subject to any debt limits if they are issued in anticipation of non-tax revenue.

Grant anticipation notes

Grant anticipation notes (GANs) are usually issued in anticipation of a grant from the state or federal government. Before a municipality may issue GANs, it is important to have the actual grant offer and the municipality's acceptance of the offer.

Tax anticipation notes

Tax anticipation notes (TANs) are issued for operating purposes and to cover cash flow problems during times when bills must be paid before anticipated tax revenues are received. If the tax requires a vote, the TANs cannot be issued until the tax receives voter approval. When taxes are collected, the TANs must be repaid from those taxes. TANs

[28] This section is based on information from Chapter 2 of the *Washington Municipal Financing Deskbook* by Roy J. Koegen, Lawyers Cooperative Publishing, 1993, and *Debt Issuance and Management: A Guide for Smaller Governments*, by James C. Joseph, Government Finance Officers Association, 1994.

must mature within six months of the end of the fiscal year in which they are issued.

Line of credit

An alternative to issuing an anticipation note is the establishment of a line of credit with a bank. A line of credit is a promise by a commercial bank to lend funds at a given rate of interest for a certain period of time. Having a line of credit makes it easier to fund immediate needs before final costs are determined.

Warrants

A warrant is similar to a check, with a named payee, but it has no specified payment date. Warrants are typically paid within the fiscal year in which they are issued, but if not, they are considered debt for debt limit purposes.

Conditional sales contracts, lease-purchase agreements and certificates of participation[29]

Cities can acquire property or equipment with tax-exempt financing through conditional sales contracts, lease-purchase agreements and certificates of participation (COPs). The interest portion of payments is tax-exempt, and the outstanding portion of the principal is considered to be debt.

In a conditional sales contract, a vendor or third party investor provides the financing and is paid back by the city. In exchange for taking the credit risk of payment from the city, the vendor can reserve the right to repossess the property if the city does not make its payments. The term of a conditional sales contract may not be longer than the useful life of the item being purchased. Unless these contracts contain certain termination provisions, they are included in computing a city's debt limit.

A city may also acquire property through a lease purchase agreement, in which the city makes installment payments to a vendor or a third party investor over time. At the end of the term it exercises an option to purchase the property at a pre-determined price.

COPs transform a lease or conditional sales contract into a marketable security. The lessor/seller assigns the lease to a trustee, and the underwriters sell shares in the lease to investors. The city pays principal and interest payments to the trustee who then pays the investors. These leases can be entered into without a vote of the people and are backed by a pledge of the taxing power of the city.

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[29] This section is based on information in *A Debt Primer for Washington's Cities and Towns*, MRSC of Washington, August 1994, and Chapter 2 of the *Washington Municipal Financing Deskbook* by Roy J. Koegen, Lawyers Cooperative Publishing, 1993.

Chapter 6

Loans and Grants

Government loans

Some funding programs will reimburse infrastructure construction costs regularly throughout the construction period. Other funding programs reimburse all eligible costs only when the entire project is complete. In this case, a local government must have some way to pay for construction costs as they are incurred, which requires some sort of interim financing. This may be in the form of a short-term loan from a commercial bank or another government loan program. A local government may also issue anticipation notes, establish a line of credit with a bank or enter into different kinds of lease agreements with a private party. These types of short-term financing arrangements are explained in more detail in Chapter 5.

Interest rates on loans from government programs are often not as high as either private or market rates. Loans may be given independently or as part of a package with a grant. Government loan programs usually require a community to compete for funds through an application process. The need for a low-interest loan must be demonstrated, and it may take several weeks, or months, for the application to be reviewed and approved. Government agencies will sometimes provide favorable loan requirements, such as low coverage or no reserve requirements, but are usually less flexible than private market sources and can involve considerable documentation and delays. Some loan programs allow a community to perform project work and incur expenses, then request reimbursement for expenses against the loan. Other loan programs require the community to obtain interim financing, in the form of bonds or other loans, to cover construction costs and to buy out the interim financing after the project is completed.

A community may seek interim financing from an organization managing a private revolving fund, such as RCAC. Local governments and organizations engaged in developing or improving small drinking water and wastewater systems can borrow between $5,000 and $5,000,000 depending on the type and purpose of the loan. The interest rate charged by RCAC is typically below current market rate and adjusts according to RCAC's prevailing cost of funds and the economic environment. For more information, contact RCAC's Washington State Field Office at 360/493-2260.

Although grant money is becoming increasingly difficult to obtain, relatively large amounts of low interest loans are still available through government loan programs. Appendix B summarizes the major features of government loan programs commonly used to finance infrastructure improvement projects[1]. To take out a government loan, local governments should plan months in advance. Contact funding program staff early in the process.

Keep in mind that the costs of taking a loan are not limited to the annual payments, or even the combination of principal and interest payments. The community will usually have to pay for the costs of preparing the application, servicing the loan, meeting threshold requirements, such as conducting income surveys and raising local match dollars.

When choosing between different loan options, determine what the total cost over the life of the loan will be. Include principal and interest payments and loan origination fees, not just the amount of each payment.

[1] Because government loan program policies changes frequently, this information has been included in an appendix so that it can easily be updated.

Loans from commercial banks

Historically, the interest rate and terms on loans from commercial banks have not been as favorable as those available through government loan programs, which usually have subsidized rates. Commercial banks usually do not have as many requirements as government loan programs, and the application process may be considerably faster. However, commercial banks may be stricter than government loan programs in their analysis of creditworthiness or security requirements.

The interest that banks earn when local governments borrow is exempt[2] from federal income taxes. Also, when banks lend money to, or buy bonds from, governments that issue less than $10 million in debt each year, they gain additional tax advantages. This means that local governments usually pay lower interest costs than private borrowers because commercial lenders, such as bond investors, can benefit from the tax advantages associated with municipal debt.

Once a community completes construction, the permanent financing reimburses construction expenses. (Permanent financing is sometimes called "take out" financing because it takes out the interim financing.) The permanent or take out financing may require that a community have security in addition to interim financing. This security can be in the form of mortgages, bonds, notes or buildings, depending on the borrower and the loan program. Security on permanent financing must be accounted for separately from the interim financing. For example, the security required by USDA Rural Development from a town for a 40-year loan term is in the form of revenue bonds that will be issued in case of default.

Grants

Grants can be part of an overall financial package, but be realistic. The amount of grant dollars available to fund infrastructure improvements has been shrinking in recent years, so it is unlikely that a local government will get all the funding it needs from grants. If a local government's financing plan shows that it is taking out all the debt that it can, yet it still cannot afford all needed infrastructure improvements, grant programs are more likely to fill the gap.

To obtain a government grant, a local government usually needs to compete for the funds. This includes completing an application, demonstrating need for the grant (versus a loan or other source of financing), and then waiting for the application to be reviewed and approved. Grant program managers look carefully at proposals, checking to see if applications meet not only threshold requirements, but also specific program objectives, such as public health protection, environmental protection or economic development. Once the grant is awarded, a local government usually does not receive the money as one lump sum. In most cases, the work must be done, and expenses incurred, before the local government can request reimbursement. Some programs combine grant awards with loan awards so that an exclusive grant package is impossible to obtain from the program. In this situation, if a local government is unwilling or unable to take out the loan portion, the grant portion will not be available either.

Appendix C outlines many government grant programs that fund infrastructure improvements[3].

[2] This is true provided that the bank meets certain qualifications.

[3] Because government grant program policies changes frequently, this information has been included in an appendix so that it can easily be updated.

Overlooked costs of outside funding

The full cost of a particular funding package includes more than actual project costs. The following section describes some of these often "overlooked" costs of using outside funding.

Contact program staff early to see if a particular project has a good chance of being funded by that program. Even though a project may be eligible for funding according to grant program policies, for a variety of reasons, certain types of projects may rarely get funded.

Meeting pre-requisites

Some funding programs require that the community meet certain requirements before applying for funds. This can include completing a feasibility study or preliminary engineering report, documenting that the income levels in the community are at certain level or passing a local tax. Consider what it will cost to satisfy these requirements.

Upfront costs

Upfront costs are those costs that will need to be paid to receive or qualify for a certain type of financing. Some common upfront costs are listed below:

Some communities use private foundation grants to complete funding packages for parts of projects like public art and environmental protection/enhancement projects. However, few, if any, foundations are willing to fund traditional water, wastewater and road improvements.

Funding source	*Up front costs*	*Interest rates*
Grants	• Cost of preparing grant application • Meeting grant requirements, if applicable • Local match, if required	Not applicable
Government loans	• Cost of preparing loan application • Meeting loan requirements, if applicable • Local match, if required	Zero or low interest loans.
Municipal bonds	• If voted, cost of election • Costs for bond counsel and other service providers	Lower than market rate
Commercial loans	• Cost of preparing loan application	Market rate

Developing the application

Some applications are relatively simple to complete, but others involve a lot of time and effort. For any given funding program, one community may spend a great deal of time gathering the right information, while another may have all of the needed information readily available. If a project is complicated, it may take a lot of effort to explain the different phases and details.

The Community development Block Grant Program and USDA Rural Development – Rural Utilities Service programs both require a fair amount of demographic data about the community as part of their applications. However, both programs already have some demographic data on file. To avoid unnecessary research work, contact the appropriate program to see what information they already have before starting demographic surveys.

The community may use its own staff, a local volunteer or even a professional grant writer to help complete the application. In any case, consider the time and costs it will take to complete the application when making the decision whether or not to apply to particular program.

Be aware of funding program schedules

For counties and cities planning under the Growth Management Act (GMA), certain grants and loans, such as from the Public Works Trust Fund, Centennial Clean Water Fund require compliance with the GMA as a condition of funding.

Some funding programs do not accept applications year-round, and for some programs it can take up to a year to receive funding. Therefore, it is important to be aware of program application deadlines, when commitments are made and when funds are available. Being aware of funding program schedules can help ensure that:

- Certain tasks can be completed on schedule;
- Opportunities for using volunteers or cost-cutting measures are not lost;
- Enough funds are available at the right time to meet match requirements for another program; and
- Local staff will not have to be paid overtime to complete the application.

Many funding programs want to be involved early in the project development process — before an application is submitted. Contact program staff to discuss the project well before the application is submitted.

Work out a tentative schedule for funding availability and project start dates. Talk to program staff to get a realistic idea of how long it will take to receive funds. Talk to bond counsel to figure out how long it will take to issue a bond. Be sure to have a contingency plan in case funding is delayed or unforeseen problems arise.

Raising the local match

When a community has to come up with a portion of the project costs, that amount is often referred to as the local match. Depending on the funding program, a community may be required to contribute as little as 10 percent or as much as 50 percent of the total project cost. This contribution may be in the form of cash, usually from reserves, funds from another grant or loan that are part of the project's financing package or in-kind labor, such as staff time contributed by the city to cover administration and other project costs. Appendices B and C list match requirements for different government funding programs.

There are often restrictions on the source of the match. For example, federal funds generally cannot be used to match other federal funds. That means that a grant from USDA RD-RUS probably cannot be used to match grant money from USDA Forest Service. The PWTF program does not accept grant funds as local match. A funder may also restrict a community from counting any money spent before the grant contract was signed as match. Before agreeing to take a grant or loan, check what the local match requirements are and determine whether the community can raise the appropriate type and amount of match.

Administering the funds

Administering a government grant or loan (i.e., completing paperwork) can be very time consuming. Some good questions to ask funding program staff early in the process include:

Some debt issues require fairly sophisticated accounting software to maintain billings. For example, if a loan or bond will be repaid using special assessments from a LID, build in the cost of the computer software needed to upgrade and maintain the utility's billing system.

- How much of the loan/grant amount can pay for administration costs? (It is usually a percentage of the total project cost.)
- Can inflation be factored into the administration costs?
- How many times (and where) will local staff be required to meet with funding program staff? Include travel expenses in the overall loan/grant budget.
- If multiple funding programs are used, is it possible to have one act as lead? For example, can agencies give their money to a lead agency. Using this strategy ensures that the community has to submit only one reimbursement request at each milestone.
- What tips can program staff give local staff to make administering the loan/grant easier and cheaper?
- Could another community that has recently administered a loan or grant with this funding program explain how to keep administrative costs low?

Wage requirements

Many programs require that certain standard wages be paid for all project-related labor, such as Davis-Bacon or prevailing wage requirements. Depending on the improvements needed, this can significantly increase the cost of the project. Be sure to factor funding program wage requirements into the overall project costs.

Chapter 7

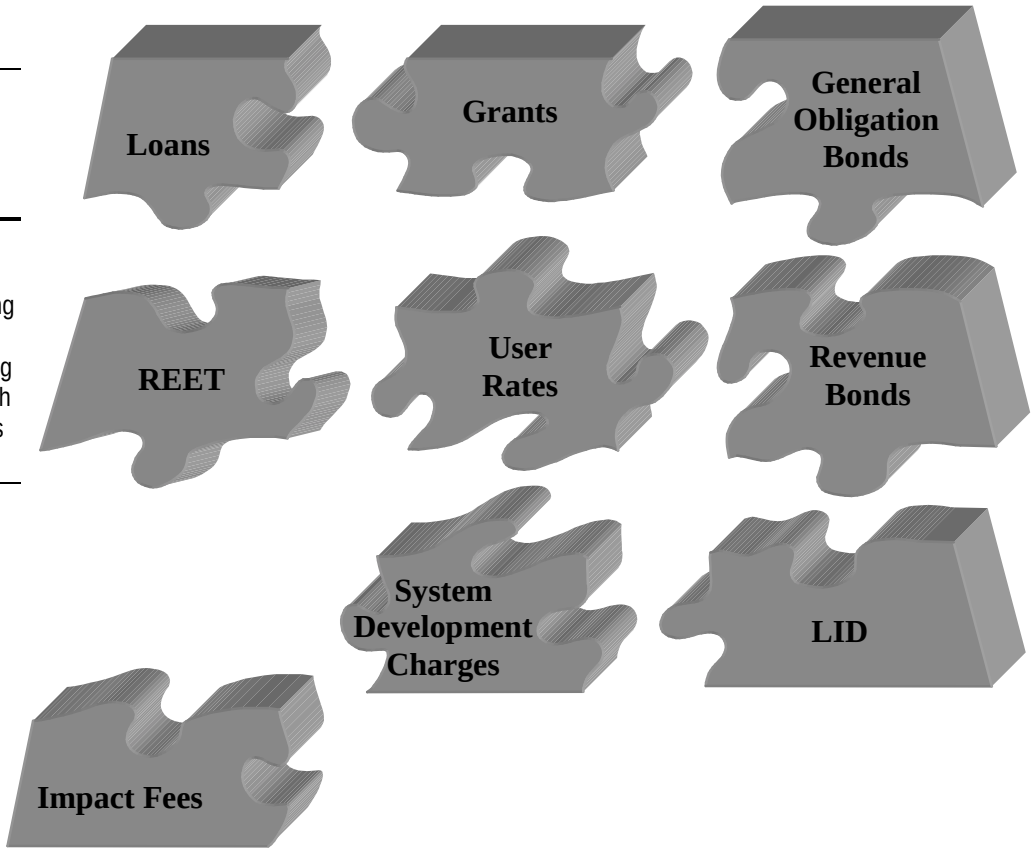
Outlining an Overall Infrastructure Financing Plan

Each community puts together an infrastructure-financing plan in a way that meets its individual needs. Some like to raise user rates, then fund everything possible out of built-up reserves. Some like to search extensively for grants and ignore all forms of borrowing.

As a first step in creating an infrastructure-financing plan, look at all possible sources of funding and determine whether the community is an eligible applicant with an eligible project. Then, trim the list to those programs that give the best terms and rates for payback.

Avoid the "shotgun" approach to applying for funding. Do not send applications to every possible funding program. Instead, research the funding programs and decide which ones are the fit best with the community's needs.

Do not immediately change the scope of a project to make it fit a particular funding program's requirements. Instead, research the funding programs to determine which ones can fund the project as originally defined.



Exercise: Identify possible funding sources

Blank worksheets are provided in Appendix A.

Worksheets 3-W, 3-WW, and 3-T list possible funding sources for the planning, pre-construction and construction phases of projects for water, wastewater, and transportation system improvements respectively.

1. Using Worksheet 3-W, information in Chapters 4, 5, and 6, and Appendices B and C, determine whether you are an eligible applicant with an eligible project for each of the funding programs or financing options listed on Worksheet 3-W. If you are an eligible applicant with an eligible project, or if this type of financing is a possibility for you, circle the X. If you are unsure, contact program staff or bond counsel for more information. **Note that even though a grant may be part of the final package, do not ignore loan and bond options.**

2. The circled Xs indicated possible pieces of your water system improvement financing plan.

3. Repeat steps 1-2 for wastewater and transportation systems using Worksheets 3-WW and 3-T.

Worksheet 3-W — Water System Funding Possibilities

Funding Source[1]	***Planning***	***Pre-construction***	***Construction***	
			Existing needs	***Excess capacity needs***
CDBG Planning only grant	X			
CDBG General Purpose grant		X	X	
CDBG CIF grant			X	
CERB Rural Program	X		X	X
CERB Traditional Program			X	X[2]
CERB Pre-development and Planning grant	X			
USDA Forest Service Rural Development program	X	X	X	
USDA Forest Service Economic Recovery Program	X	X	X	
PWTF Capital Facilities Plan program loan	X			
PWTF Pre-Construction loan		X		
PWTF Construction loan			X	
Rural Opportunity Fund	X	X		
DWSRF loan	X	X	X	X[3]
USDA RD-RUS Water and Waste Disposal grants and direct and guaranteed loans		X	X	X[4]
USDA RD-RBS RBEG grant			X	
EDA Public Works Construction grant			X	X
Voted GO bond			X	X
Revenue bond			X	X
Special assessment bond			X	X
Real estate excise tax	X	X	X	X
Utility capital reserves	X	X	X	X
System development charges				X
SEPA-authorized mitigation fees				X
Retained Local Option sales and use tax revenues			X	X

[1] See "Acronyms" page at beginning of manual.
[2] Must have "bird in hand."
[3] Excess capacity needs up to 20 years.
[4] Can fund "foreseeable, reasonable" growth needs.

Worksheet 3-WW — Wastewater System Funding Possibilities

Funding Source[5]	***Planning***	***Pre-construction***	***Construction***	
			Existing needs	***Excess capacity needs***
CDBG Planning only grant	X			
CDBG General Purpose grant		X	X	
CDBG CIF grant			X	
CERB Rural Program	X		X	X
CERB Traditional Program loan			X	X[6]
CERB Pre-development and planning grant	X			
USDA Forest Service Rural Development Program	X	X	X	
USDA Forest Service Economic Recovery Program	X	X	X	
CCWF matching grant or loan	X	X	X	X[7]
Clean Water SRF loan			X	X[8]
PWTF Capital Facilities Plan Program loan	X			
PWTF Pre-Construction loan		X		
PWTF Construction loan			X	
Rural Opportunity Fund	X	X		
USDA RD-RUS Water and Waste Disposal grants and direct and guaranteed loans		X	X	X[9]
USDA RD-RBS RBEG grant			X	X
EDA Public Works Construction grant			X	
Real estate excise tax	X	X	X	X
Utility capital reserves	X	X	X	X
System development charges				X
Voted GO bond			X	X
Revenue bond			X	X
Special assessment bond			X	X
SEPA-authorized mitigation fees				X
Retained local option sales and use tax revenues			X	X

[5] See "Acronyms" page at beginning of manual.
[6] Must have "bird in hand.
[7] Up to 110 percent of existing need.
[8] Can fund needs expected during next 20 years.
[9] Can fund "foreseeable, reasonable" growth needs.

Worksheet 3-T — Transportation System Funding Possibilities

Funding Source[10]	***Planning***	***Pre-construction***	***Construction***	
			Existing needs	***Excess capacity needs***
CDBG General Purpose grant			X	
CDBG CIF grant			X	
EDA Public Works Construction Program grant			X	
STP grant		X	X	
UATA grant		X	X	
TIA grant		X	X	
CRAB Rural Arterial Program grant		X	X	
PWTF Capital Facilities Program loan	X			
PWTF Pre-construction loan		X		
PWTF Construction Program loan			X	
CERB Traditional Program loan			X	X[11]
CERB RNR Program loan			X	X
USDA RD-RHS Capital Facilities grants and direct and guaranteed loans		X	X	X
Voted GO bond			X	X
Councilmanic GO bond			X	X
Special assessment bond			X	X
Revenues from general fund reserves	X	X	X	X
Street fund reserves	X	X	X	X
SEPA-authorized mitigation fees				X
GMA-authorized impact fees				X
Retained local option sales and use tax revenues			X	X
CERB REV Program		X	X	X

[10] See "Acronyms" page at beginning of manual.
[11] Must have "bird in hand."

Try for grants, but plan for some expenses to be financed with debt

Creating financing packages does not mean figuring out what grants are available and then applying for all possible grants. Relying too heavily on grants is risky because of the competition for scarce funds.

Even if the chances of getting a grant are good, develop a contingency plan in case the grant is not received. Create a worst-case scenario of how projects will be financed, using some combination of local revenues, loans and bonds, but no grants. Calculate the overall costs of borrowing (including both principal and interest payments) as well as the monthly impacts on users. This can also help demonstrate true community need to grant programs.

Not all governmental funding programs can fund growth-related needs, and different programs have different definitions of "growth" (see Chapter 3). However, if the amount of growth projected is within certain limits (e.g., the 10 percent excess capacity beyond existing needs that can be funded by the CCWF program), a funding program might be able to fund the costs associated with growth.

Fund planning from local revenue or low/zero-interest loans

Planning is a difficult phase to fund. Infrastructure users often do not see the value of plans, especially if limited resources go toward planning rather than construction projects. Some government programs will not even consider funding projects that only include planning. As a result, communities often must use local revenue, such as reserves, to finance planning. Knowing this ahead of time can help ensure the most efficient use of local dollars. If necessary, a community can sometimes take a low-interest or zero-interest loan. This would have approximately the same effect as using local dollars, except that payments would be spread over time.

Certain funding programs (e.g., the Community Economic Revitalization Board programs and some private revolving loan funds), can fund infrastructure development that is tied directly to growth in the form of economic development activities such as job creation or job retention.

Roll together pre-construction and construction costs

Many government funding programs will fund pre-construction activities if they are part of a pre-construction/construction combined package. In this situation, the community takes out debt on both the pre-construction and construction amounts. One drawback to this approach is that environmental regulations, such as National Environmental Policy Act (NEPA) regulations, may apply earlier than if pre-construction and construction are funded separately.

Businesses have access to financing through sources that are either not available to, or not generally used by, local governments, such as parent company reserves, commercial banks, private bonds and certain government agencies that work with the private sector.

Include costs of providing excess capacity in the loan/bond

Although many government funding programs will not finance excess capacity required by growth, a few can. See Worksheets 3-W, 3-WW, and 3-T earlier in this chapter for details.

Contact program staff early to clarify what types of infrastructure improvements are eligible for funding, how much excess capacity can be funded and what portion of projected costs are considered eligible expenses.

If a community wants to build excess capacity beyond what government programs can fund, it may decide to issue municipal bonds. However, bond buyers may require more guarantee of payback than some government funding programs. Therefore, municipal bonds may have covenants, which require that a certain portion of repayment is to come from new connections, and may include performance measures that demonstrate that these funds can and will be raised.

A community might be asked to create not only a fee schedule for selling capacity, but also to demonstrate whether new development is probable and realistic. Such a fee schedule could include some combination of impact fees, system development charges and private financing.

Completely financing system improvements with debt may raise user rates beyond what community residents can afford. In these cases, a grant program may award a grant to fund part of the improvements, or the program may ask the community to reduce the scope and costs of improvements.

Package projects

Funding program policies are constantly changing. In the past, many funding programs expected or wanted to see just one project per application. However, as funding programs increasingly want to see problems solved comprehensively, communities are being urged to submit applications that include more than a single project. Funding program policies will continue to change, but it is likely that project packages will score well against single projects in the future in many funding program selection processes.

Different communities have different priorities. For some communities, the goal is to keep monthly rates to a minimum. For others, the goal is to minimize the total amount repaid -- principal and interest. Still others may want to minimize the time that the community will be torn up by construction. On the other side of the equation, funders are not always able to fund communities for the full amount requested because they are limited by the amount of money they have available. Funders do like to see that projects are affordable for the community and appropriately "phased" -- meaning that the most important needs are taken care of first.

Once a financing package has been created, explain to the public why certain funding options were chosen over others.

To save money and effort, some communities will group several projects together and submit an application to fund the entire group. Sometimes, a community is under a compliance order from a regulatory agency to undertake several projects at the same time, which may require an application that covers all those projects. Other communities may not be under a regulatory order to do several projects, but may want to take care of all closely related problems on a particular system at once.

To get several years' worth of improvements funded, a community can look at packaging projects together. A package consists of several projects for one system, which can include:

- **Equal priority projects –** The package can consist of projects that must all be completed around the same time. A community may have five projects on its water system capital improvement plan that must be completed in the first year. Another community may have to meet a regulatory deadline and may have three major improvement projects that must be done together by a certain deadline.

- **All planning work –** Because planning money usually comes from local revenue or zero-and low-interest loans, putting all planning activities for a particular system together into one package can be useful. However, if local dollars are being used to fund planning projects, consider including planning as part of a larger package with pre-construction and construction activities. This way, the local dollars spent on planning can be counted as match for the larger project package.

- **As many projects as the community can do in a 36-month construction period –** Many funding programs require that the entire pre-construction and construction period last no longer than 36 months. Understanding this, a community can consider rolling together as many projects listed on the CFP as can be accomplished in a 36-month period and trying to fund all of those projects.

- **All six years' worth of improvements**[12] **-** A community may want to secure all the funding for six year's worth of improvements at once so that it doesn't have to reapply for funding. The package, in this case, consists of all the projects listed on the system's capital improvement plan.

- **Projects linked by a common goal –** A package can be made up of projects that all have the same goal, such as all being referenced in a regional watershed management plan, or all increasing available capacity for economic development.

- **As many projects as the community wants to do –** Some communities want to do as many projects as they can do because a well-kept system is highly important to local residents and businesses.

A financing plan for funding six years' worth of improvements on a particular system will probably consist of several packages. For example, a community's water system capital improvement plan will call for six years' worth of improvements, broken down by year. A community can go back and regroup those projects together using some of the ideas presented above. There may be one package of improvements that consists of those projects that are needed to bring the system into compliance. It includes all of the year one water system capital improvements and some of the year two projects. The community may then only be able to afford to pay for two more

[12] Counties and cities planning under the Growth Management Act must have a six-year capital facilities plan for all facilities that the jurisdiction owns. If the jurisdiction relies on a service provider and doesn't own or operate either a sewer or water facility, pertinent parts from the service provider's capital facilities plans need to be included.

projects off the year two list, so it might roll these projects together into a package.

Another package may be a group of projects that primarily affect the downtown area as a segment of the community's downtown revitalization program. The downtown improvement package may consist of some of the year two projects, some of the year three projects and some of the year five projects. The community also may have a third package that consists of all remaining projects that can be done together, but take no more than 36 months to complete.

The advantage of grouping together packages includes potential for economies of scale and less paperwork. However, smaller projects may have a better chance of being funded, because they represent smaller portions of an agency's overall pool of available funds. Grouping packages also allows communities to see how the improvement priorities of a particular infrastructure system match with other community priorities. It can help a community to be prepared for future opportunities when they arise. If a new grant program or a newly-arrived business can help pay for improvements, a community can draw attention to those improvements that are most appropriate for that new funding source. Project packages can also help reduce the number of separate consultants and consultant selection processes. Packages also improve project coordination efforts and expenditures.

As a final note, packages of projects are not written in stone. A community will probably find itself repackaging a group of projects based on need or new opportunities. A problem that was considered low priority before may need to be funded quickly with an emergency loan. A planned source of financing may dry up. A new program may be created in which a community will package improvements from its water system with improvements to its wastewater or transportation system. Packages can help guide the financing plan as long as the community can update the packages to meet local needs and take advantage of new opportunities.

Exercise: Develop project packages

Blank worksheets are provided in Appendix A.

Worksheets 4-W, 4-WW and 4-T give room to describe what funding packages a community might have for water, wastewater and transportation system improvements respectively.

1. Using Worksheet 4-W and Worksheet 1-W, define water system project packages, the reason for packaging those projects together and the costs associated with each package.
2. Repeat steps 1-2 for wastewater and transportation systems using Worksheets 4-WW and 4-T.

Sample Worksheet 4-W — Water System Project Packages

Package #1

How are projects in this package related? Downtown business retention improvements.

Project	***Total Pre-construction and Construction Costs***	
	Existing Needs	***Excess Capacity***
Test corrosion parameters and reduce corrosion in drinking water	$200,000	
Leak detection and repair	$10,000	
Stabilize transmission line	$385,000	$165,000
Install 1,000’ of 8” ductile iron pipe on A street	$26,400	$6,600
Total	$621,400	$171,600

Single program funding

There are many advantages to having only one program fund all needed system improvements, including having only one set of reporting and reimbursement guidelines, one point of contact on grant or loan management issues and a limited set of regulations to follow before and during construction.

Assuming the worst-case scenario (no grant, all loan/bond), the first thing to consider is which loan will give the lowest annual payment, and therefore, the smallest increase to user rates and the lowest total cost of principal and interest.

Different funding programs have different available interest rates and terms. To begin, determine which program has the lowest annual payment by using debt amortization factors. A debt amortization factor is a number that combines loan term and interest rate information into one number. Multiplying the principal of the loan/bond by the right debt amortization factor will give the annual payment needed to pay back that loan/bond[13]. Debt amortization factors can be generated using a spreadsheet or financial calculator[14]. There also are a number of debt calculators on the Internet[15].

[13] Different approaches may result in different numbers, due to rounding in computer programs.

[14] To calculate debt amortization factors without the aid of a computer or financial calculator, the equation is: $i / \{1 - [1 / (1 + i)^{n}] \}$ where i is the interest rate and n is the term of the loan/bond.

[15] For example, *www.eloan.com*

Although loan terms and rates can change, the debt amortization factors for some commonly used loans in Washington (as of late 1998) are included in the following chart:

Program	***Example rates***	***Example terms***	***Debt amortization factor***
PWTF Construction Loan	1.0%*	20 years	0.055415
	2.0%*		0.061157
	3.0%*		0.067216
Drinking Water SRF Loan	1.35%†	Less than 11 years	0.098437 – 1.0135
	2.35%†	Less than 11 years	0.104223 - 1.0235
	2.35%†	30 years	0.046827
	3.35%†	Less than 11 years	0.110183 - 1.0335
	3.35%†	20 years	0.069409
	4.35%†	20 years	0.075880
USDA RD Water/Waste Disposal Loan	4.5%‡	40 years	0.05435
	5.0%‡		0.05828
	5.5%‡		0.06233
Clean Water SRF Loan	0.0%º	5 years	0.200000
	3.4%º	6 years	0.187052
	3.4%º	14 years	0.090958
	4.2%º	15 years	0.091203
	4.2%º	20 years	0.074891

* = Contributing 30 percent of project cost qualifies for a 1 percent interest rate, 20 percent local match for a 2 percent interest rate and 10 percent local match for a 3 percent interest rate. (Summer 1998 information)

† = A water system that *does not* qualify for disadvantaged community status or *is not* in a distressed county qualifies only for the highest rate. If 51 percent or more of a water system households have less than 80 percent of the county's median household income, using 1990 Census data or an income survey, or if the system is located in a distressed county, the water system qualifies for an intermediate rate and/or term. If 51 percent or more of water system's households have less than 50 percent of the county's median household income (MHI) (using 1990 Census data or an income survey), the water system qualifies for the lowest rate and/or longest term.

‡ = Having an MHI between 0-80 percent of the Washington State MHI, $33,239, qualifies the borrower for the lowest rate if the project is to meet health standards. Eighty to100 percent of the Washington State MHI qualifies the borrower for the intermediate rate, and above 100 percent of the Washington State MHI qualifies the borrower for the highest rate. (Summer 1998 information)

º = Financial hardship assistance may be available to grant or loan recipients for the existing residential need portion of a water pollution control facility construction project if the project will cause a residential sewer user charge in excess of 1.5 percent of MHI. For loans, if the Department of Ecology determines that financial hardship exists, it may structure loan agreements with terms to help keep residential user charges below the financial hardship level for the existing residential need, if possible. Hardship terms may include lengthening the repayment period to a maximum of 20 years, lowering the interest rate or a combination of a lower interest rate and an extended term.

Exercise

To find out the annual payment needed to pay back a $500,000 loan at 3 percent over 20 years, multiply $500,000 by the debt amortization factor for a 20-year, 3 percent loan. The debt amortization factor for a 20-year, 3 percent loan is 0.067216. Multiplying $500,000 by 0.067216 equals $33,608. This is the annual payment needed to pay back this loan.

Annual payment on a 20-year, 3 percent loan: $500,000 x (0.067216) = $33,608

A. What would the annual payment on a $1.6 million loan at 2 percent over 20 years be?

Debt amortization factor = _____

_____	*x*	_____	=	_____
Principal		*Debt amortization factor*		*Annual payment*

B. What would the monthly payment be?

_____	÷	*12*	=	_____
Annual payment		*months*		*Monthly payment*

Exercise

A community wants to obtain a Drinking Water SRF loan. The community's median household income is 72 percent of the county MHI.

A. What are the community's interest and term options?

B. What would the annual and monthly payments for each option be?

C. Which option would cost the least in the long term?

The total amount that must be repaid on a loan or bond depends on the interest and term. A shorter term may result in higher annual payments, but the total of all payments made, principal and interest, will be lower. Some communities are very uncomfortable about saddling future users with debt, so they want to pay the loan off as quickly as possible. Other communities cannot afford to pay off the loan quickly, so spreading the payments out over a longer term makes more sense, even if the total of all payments is higher.

Example

The annual payments on a 5 percent, 40-year loan of $100,000 would be approximately $5,828. Over that time, the sum of all payment would equal approximately $233,120.

Annual payment on a 40-year, 5 percent loan:
$100,000 x (0.058278) = $5,827.80
40 years x $5,828/year = $233,120

The annual payments on 5 percent, 20-year loan of $100,000 would be approximately $8,024. Over the life of the loan, the sum of all payments would equal approximately $160,480.

Annual payment on a 20-year, 5 percent loan:
$100,000 x (0.080243) = $8,024.30
20 years x $8,024/year = $160,480

In the first case, the annual debt service is lower, but after all the payments have been made, the community will have paid over $72,000 more than if the loan term was only 20 years.

$233,120 - $160,480 = $72,640

Exercise: Finance a project package using a single funding program

Blank worksheets are provided in Appendix A.

Worksheets 5-W, 5-WW, and 5-T provide spaces to analyze the impacts of different forms of debt financing for a single package of projects.

1. Using one of the water system project packages created in the previous exercise (Worksheet 4-W) fill in the spaces on Worksheet 5-W labeled "Total Cost of Package" and "Cost to Meet Existing Needs."
2. Determine which funding programs the system is eligible to apply to, using Worksheet 3-W at the beginning of this chapter. For each program, write the name of the program in the first column on Worksheet 5-W.
3. For each program, write the amount financed in column 2 (at first, use the total cost of the package written at the top of the worksheet), the term of the loan/bond in column 3 and the rate of the loan/bond in column 4. For bonds, contact a bond counsel for latest rate and term information. In some cases, the funding program may fund the costs of adding excess capacity.
4. Calculate the total of principal and interest payments for each program and write those amounts in column 5.
5. Write each program's added costs in column 6.
6. Using the term and interest rate listed in columns 3 and 4, calculate the amortization factor for each program and write that number in column 7.
7. Calculate the annual debt payment required under each program. Multiply the amortization factor in column 7 by the sum of the total amount financed (column 2) and any of the added costs that can be included in the loan/bond (from column 6). Write the result in column 8.
8. Leave column 11 blank for now. It will be used in an exercise in the next chapter.
9. Write the total cash match required in column 9 and the total in-kind match possible in column 10.
10. The costs of providing excess capacity cannot be recovered through user rates. However, such costs can be recovered through special fees and taxes charged to new users. Develop a plan for how to recover the costs of providing excess capacity. Answer the questions listed at the bottom of the page on what portion of the costs of providing excess capacity will come from hookup fees, system development charges/impact fees and special assessments.
11. Repeat the preceding steps for other water system packages. Photocopy Worksheet 5-W as necessary – blank copies are in Appendix A.
12. Repeat steps 1 – 11 for wastewater system packages using Worksheet 5-WW.
13. Repeat steps 1 – 7 and 9 – 10 for transportation system packages using Worksheet 5-T.

Sample Worksheet 5-W — Compare Water System Funding Scenarios

Package #: 1 ***Total Cost of Package: 793,000*** ***Cost to Meet Existing Needs: 621,400*** ***Cost to Provide Excess Capacity: 171,600***

1	2	3	4	5	6	7	8	9	10	11
Program	***Amount financed***	***Term of loan/bond***	***Rate of loan/bond***	***Total of principal and interest payments over life of loan/bond***	***Added costs*** *(surveys, management, bond counsel, loan fees)*	***Amortization factor***	***Annual payments required***	***Local cash match required***	***Local in-kind match possible***	***Impact on monthly user rates***
RUS	193,000	40 years	5 %	$1,848,600	$11,000	.05828	$46,215	0	0	$9.24
DWSRF	$793,000	20 years	4.35 %	$1,203,600	$6,000	.07589	$60,180	$79,300	0	$12.04
DWSRF	$621,400	20 years	4.35 %	$943,040	$6,000	.07589	$47,152	$62,140	0	$9.43
Revenue bond	$793,000	30 years	6 %	$1,728,330	$27,000	.07265	$57,611	0	0	$11.52
Revenue bond	$171,600	30 years	6 %	$374,002	$20,000	.007265	$12,467	0	0	$2.49

What is more important to the community – lower overall cost in the long term or lower monthly cost? Lower monthly cost.

Is the term of the loan longer than the life expectancy of the facility being financed? No. The improvements should last 50-75 years.

Also consider:

What portion of the cost to provide excess capacity will be recovered through hookup fees? Twenty percent.

What portion of the cost to provide excess capacity will be recovered through system development charges? Fifty percent.

What portion of the cost to provide excess capacity will be recovered through special assessments? Thirty percent.

Multi-program funding

The USDA RD-RUS (RUS) often partners with other funding programs, often as the last source of funds for a package of projects. However, involve RUS and other funding program staff in the funding discussions early so they can see how other programs are being used to fund the package.

Many projects cannot be funded by only one source. Because of maximum award limits, limited availability, ineligible project costs or need for matching funds, it may be better to have more than one funder for a particular package. However, reporting to multiple funders, staying in compliance with several difference program requirements, and even the act of creating multi-funder financing plans for a given package is more complicated.

Unlike single program funding which involved multiplying a set debt amount by a single debt amortization factor, using multiple programs means *several* debt amortization factors, each multiplied by *portions* of the debt.

For example, a community may want to use funds from the Clean Water SRF, USDA RD-RUS, and the PWTF to finance $1 million in wastewater system improvements. What portion of the $1 million should come from the Clean Water SRF? What portions can USDA RD-RUS finance? Knowing that the other players are involved, what portion would be financed by the PWTF? What combination of all three will give the lowest annual payment for the community? A long process of negotiation usually answers these questions. The funding programs may not be able to spend available money on the project. A community could hire a consultant to shepherd the funding applications and make contacts with program staff in the hopes of brokering a deal. However, communities can do much of this work by analyzing payback terms.

The Washington Community Economic Revitalization Team (WA-CERT) was created under President Clinton's Economic Adjustment Initiative to assist communities that were affected by the downturn in the timber industry. It established a standard of cooperation between federal and state agencies.

Project proposals are prepared by cities, counties, tribes, ports and other entities and submitted to counties or tribes for prioritization. Federal or non-federal staff, scoping agents, volunteers to research top-ranked projects in each county. The scoping agent is the single point of contact for the jurisdiction.

If a project is ready to proceed, the scoping agent identifies federal and state programs that could participate in the project and convenes a meeting of funders and project applicants to work out a multi-program funding package. If a project is not yet ready to proceed, the scoping agent identifies appropriate technical assistance resources and convenes a meeting of technical assistance providers and project applicants.

For more information on the WA-CERT process, contact the county administrator, tribal chair or the WA-CERT Chair at 360/586-0872.

The reality is that there is no one right answer as to which combination of programs is best; many different combinations of two or more loans or bonds can be used. How does one determine which ones are possible *and* realistic? Usually by using a calculator or computer to work out different debt scenarios.

Creating different multi-program funding scenarios:

Use a computer: Most spreadsheet programs (like Excel, 1-2-3 or Quattro Pro) can easily solve for many variables. Spreadsheet "solvers" require the user to input what qualities are desirable and what constraints exist, then determine what combinations of funding programs meet those criteria. When trying to determine what different combinations of different loan programs would be possible, some constraints might deal with keeping user fees at a certain level or minimizing the number of funding programs involved. The spreadsheet solver function would create a list of different multi-program funding scenarios. A community can then look at which scenarios best meet local needs.

Trial and error: Pick any two programs and divide the total debt equally between them. Use debt amortization factors to calculate the annual cost of repaying each loan. See if the total annual cost of repaying the debt is cheaper than if the entire debt was being repaid by only one source. Now, using the same programs, give one program a greater portion of the debt and recalculate the total annual cost of repaying the loan. Examine how it changes. Change the portions so that the other program now has a greater portion of the debt and recalculate the total annual cost of repaying the loan. Continue to do this until a pattern emerges.

Appendix G contains example spreadsheet information, constraints tables, and a sample solver report showing potential funding packages that meet established constraints.

Chapter
8

The Impacts of Financing on User Rates

The previous chapter discussed different ways to finance various project packages using single funding programs and multi-funding programs. In both cases, an important consideration is the impact of a loan/bond, or many loans/bonds, on user rates[1]. If water or wastewater system users cannot afford the rates required to repay a certain loan or bond, the system financing plan may have to be adjusted. Consider either reducing the amount of debt being taken out, refinancing old debt or not incurring any debt at all.

The amount of debt coverage that will be required depends on the lender, program or bond buyer issuing the debt. For example, -USDA RD-RUS prefers to have 10 percent coverage. Many commercial lenders prefer to have 40 percent debt coverage. While some state lending programs currently do not have predetermined debt coverage ratios, the Clean Water SRF is now changing some rules and may have more strict debt coverage requirements in the future.

Calculate the impact of a financing scenario on user rates

To calculate the impact of a financing scenario on user rates, consider what it will cost to repay the debt and how much user rates will need to be increased to do so. Of course, water system revenues should only pay for water system expenses, and wastewater system revenues should only pay for wastewater system expenses.

For example (see following page), suppose a community with 500 sewer connections would like to take out a loan of $1 million at 5 percent over 30 years. The annual payment to service that debt would be close to $65,051.

To guarantee that the loan could be repaid, the lender may ask for additional debt coverage. Assume that the lender requires 20 percent coverage on the loan, meaning that the community will actually have to budget for an annual debt payment of $78,061. This amount would be spread over the user base (500 connections). User rates would increase by about $13.01 to cover the added debt, including coverage requirements.

If the community were currently paying off existing debt at the rate of $5 per month per connection, the total debt service paid by users per month per connection would be equal to $18.01. Of course, this would be in addition to the operation and maintenance (O&M) cost of the system. Depending on how costly O&M is, user rates could be well beyond the means of system users.

[1] This assumes that the system has a sound rate structure to begin with, which means that the system's revenues should meet or exceed expenses. For more information about rate setting, contact RCAC at 360/493-2260.

Exercise: Calculate the impact of financing scenarios on user rates

Blank worksheets are provided in Appendix A.

1. For each funding scenario on Worksheet 5-W, use Worksheet 6 to determine the impacts of the funding scenario on user rates.
2. Write the final total monthly debt payment per connection for new debt in column 11 of Worksheet 5-W.
3. Repeat steps 1-2 for each funding scenario on Worksheet 5-WW.

Sample Worksheet 6 — Calculate the impact of financing plan scenarios on user rates

Annual debt service for new debt:

$793,000 Principal Amount	X	**.05828** Debt Amortization Factor	=	**$46,215** Annual Debt Service for New Debt

Annual new debt service with coverage:

20% Coverage %	X	**$46,215** Annual Debt Service for New Debt	=	**$9,243** Coverage Required

Total annual amount needed to service debt with coverage:

$46,215 Annual Debt Service for New Debt	+	**$9,243** Coverage Required	=	**$55,458** Total Annual Amount Needed to Service New Debt with Coverage

Total annual payment per connection for new debt service and coverage:

$55,458 Total Annual Amount Needed to Service New Debt with Coverage	÷	**500** Number of Connections	=	**$110.92** Total Annual Debt Payment per Connection for New Debt

Total monthly debt payment per connection for new debt service and coverage:

$110.92 Total Annual Debt Payment per Connection for New Debt	÷	**12** months	=	**$9.24** Total Monthly Debt Payment per Connection for New Debt

Total monthly debt payment per connection for new and existing debt:

$9.24 Total Monthly Debt Payment per Connection for New Debt	+	**$5.00** Current Monthly Debt Payment per Connection for Existing Debt	=	**$14.24** Total Monthly Debt Payment per Connection for New and Existing Debt

Calculate the projected monthly rate per connection

To calculate the total user rate after debt is incurred, understand both the expenses needed to repay debt and the non-debt expenses, such as expenses for operation, maintenance and reserve contributions of the system. Non-debt expenses increase every year due to inflation, so adding new debt expenses to this year's non-debt expenses is not enough.

For example (see following page), a community currently may have total annual system expenses of $108,000. If $30,000 of this is debt expense, then the community has annual non-debt expenses of $78,000. These expenses will increase with inflation.

To estimate the effect of inflation, multiply this year's annual non-debt expenses by an inflation factor. To calculate a simple inflation factor of 4.4%, multiply .044 by the number of years before financing is received and add 1.04. In this example, if the community will have to wait three years before the financing is in place, its inflation factor for these calculations is 1.172. Multiplying the community's annual non-debt expenses of $78,000 by 1.172 gives an estimate of the annual non-debt expenses will be in three years - $91,416.

Dividing by 12 and the number of connections, in this example, 500 connections, gives the portion of each user's bill that will go toward meeting monthly non-debt expenses in three years. Adding this amount to the total expected monthly payment needed to cover new and existing debt gives the total projected monthly rate per connection.

What is "affordable"?

How does a community decide if user rates are "affordable"? One way is to compare user rates to local incomes. Funding programs often compare a community's average utility rates to the area's Median Household Income (MHI) [2]. In Washington, both the Department of Health (DOH) and Department of Ecology (DOE) consider average user rates that are at or below 1.5 percent of the MHI per utility to be "affordable." This is consistent with the percentage used by many other states and organizations.

[2] Median household income figures are generated for counties, some cities and census block groups by the U.S. Census Bureau.

If the MHI for a given area is $1,690 per month, both DOH and DOE might consider monthly user rates up to $25.35 per utility "affordable." This amount must cover debt service, reserve contributions and operation and maintenance costs.

$$1.5\% \times \$1,690 = \$25.35$$

One and a half percent of MHI is only a guideline. Actual affordability varies by community. However, rates that exceed this level may not be affordable for many rate payers. Some funding programs, like USDA RD-RUS, require that at least one percent of the MHI for the area goes toward debt service on that system before a grant will be offered as part of the funding package.

Increasing User Rates

One of the reasons for putting together a multi-year system-financing plan is to determine what, and when, rate increases will be needed in the future to finance system improvements. Having a long-term plan allows you to phase in gradual rate increases over time. This will avoid shocking the users, who may need more time to adjust their personal budgets or cash flow to accommodate the new rates.

Consider the percentage change in utility user rates when determining impacts on rate payers. To calculate this percentage, divide the proposed average monthly rate by the existing average monthly rate, subtract one and multiply by 100.

$$\text{Percentage Change in User Rates} =$$

$$\{(\text{Proposed Monthly Rate} \div \text{Existing Average Monthly Rate}) - 1\} \times 100$$

Example

If the average monthly user rate is currently $28 per month and the proposed average monthly user rate is $34, the proposed percentage change in user rates is 21 percent.

$$[(\$34 \div \$28) - 1] \times 100 = 21\%$$

If there is a significant percentage change in user fees, you may want to compare the new user fee to the user fees in other communities that are similar in size and have similar economic conditions[3]. However, how your rates compare to other communities' rates should not be the only criteria you consider when determining if rates are affordable.

Of course, many users don't react to percentage increases as much as they do to absolute numbers. Raising rates by $5 is often seen as a significant increase, as is going from "the $10s" to "the $20s" or from "$20s" to "$30s".

How rate payers react to rate increases varies from community to community. What is consistent from community to community is that most users do not like sudden, unplanned, high increases. If a rate increase is necessary, increase it gradually over time. Most important, use a multi-year system-financing plan to keep the public well informed of why rate increases are necessary.

[3] See *AWC 1996 Tax & User Fee Survey, Part IV: Water, Sewer & Garbage Fees,* AWC, City Engineers Association of Washington and American Public Works Association Washington Chapter 1996. Contact the AWC at 360/753-4137 for copies.

Exercise: Calculate the projected monthly rate per connection

Blank worksheets are provided in Appendix A.

1. To estimate the total monthly water user rates, calculate the cost paid by each connection for non-debt water expenses, operation, maintenance and reserves, using Worksheet 7. If O&M expenses will change much after the improvements are made, change the non-debt water expenses appropriately. Also, consider if debt will be spread over fewer connections, for example only residential or only commercial.
2. Using the debt scenarios and calculations from Worksheet 6, add the total expected debt payments for new and existing debt to the monthly cost per connection for non-debt water expenses.
3. Calculate whether the total projected monthly rate paid by each connection is less than or equal to 1.5 percent of the median household income.
4. Write down the previous rates in the space provided as well as what the new rates would be. Calculate what percentage change this represents.
5. Repeat using wastewater figures (copy Worksheet 7 as needed).

Sample Worksheet 7 — calculate the projected monthly rate per connection

Total present annual non-debt expenses:

$108,000 Total Present Annual System Expenses	–	**$30,000** Present Annual Debt Payments	=	**$78,000** Total Present Annual Non-Debt Expenses

Inflation factor for annual non-debt expenses:

.044	x	**3** Number of Years before Financing is Received	+	1.04	=	**1.172** Inflation Factor

Total projected annual non-debt expenses:

$78,000 Total Present Annual Non-Debt Expenses	x	**1.172** Inflation Factor	=	**$91,416** Total Projected Annual Non-Debt Expenses

Total projected monthly non-debt expenses:

$91,416 Total Projected Annual Non-Debt Expenses	÷	**12** 12 months	=	**$7,618** Total Projected Monthly Non-Debt Expenses

Total projected monthly non-debt payments per connection:

$7,618 Total Projected Monthly Non-Debt Expenses	÷	**500** Number of Connections	=	**$15.23** Total Projected Monthly Non-Debt Payments per Connection

Total projected monthly rate per connection:

$15.23 Total Projected Monthly Non-Debt Payments per Connection	+	**$18.01** Total Monthly Debt Payment per Connection for New and Existing Debt	=	**$33.24** Total Projected Monthly Rate per Connection

Affordability check (circle one):

Is Total Projected Monthly Rate per Connection less than or equal to 1.5% of MHI? Y N

(1.5% of MHI = 1.5% x $28,000 = $420 per year ÷ 12 months per year = $35 per month)

Financing scenarios revisited

The funding scenarios created in the last section showed how project packages could be financed. After calculating the effect of each funding scenario on user rates, it may be clear that a community cannot afford to pay for an entire project package solely with debt. Some communities may still wish to finance improvements even though the user rates may be more than what is locally affordable. For example, this could be the case if a community wants to minimize the total of principal and interest payments over time.

If the local affordability of user rates is an issue, the following options exist for reducing the overall cost of the package or reducing the overall amount borrowed:

- Take pre-construction costs out of the package and pay for pre-construction costs with reserves or, if possible, a grant;
- Take an entire project out of the package and move it to a lower priority package or a package with more flexible financing;
- Aggressively pursue lower interest or longer term financing, grants or private funds by contacting program staff, doing income surveys, raising rates to the limits of affordability or finding a commercial interest to subsidize the package; and
- Share costs with local partners, such as port or private business if possible.

Keep in mind that if excess capacity is taken out of the package, economic development may be stifled.

Implication for Taxpayers

If a city wants to pass a non-voted GO bond, it should determine if the general fund can pay the yearly debt service and still pay for other services paid by the general fund.

If a city wants to pass a voted GO bond, it should determine what the increase in property taxes would be per thousand dollars assessed valuation (AV). Divide the estimated debt service payments by the city's assessed valuation, then multiply by $1,000.

For example, assume a city has an assessed valuation of $50 million and assume that the city has calculated annual debt service for a particular bond at $90,456. Each property owner would have to pay about $1.81 in increased taxes for every $1,000 of AV. Taxes for a property assessed at $100,000 would increase by $181 per year.

$90,456 ÷ $50,000,000 = .001809
.001809 x $1,000 = $1.81 per $1,000 of AV
$100,000÷$1,000 = 100 x $1.81 = $181

Exercise: Revisit project packages and funding scenarios

Blank worksheets are provided in Appendix A.

1. Use Worksheets 5-W to determine which funding program best meets the needs of the community. It may be the project with the lowest impact on monthly user rates, the lowest total of principal and interest over the life of loan/bond, the lowest match requirements or something else.
2. Identify ways to bring the cost of the project package down if none of the funding scenarios meet the needs of the community. If this means regrouping, deleting or changing project packages, make the relevant changes on Worksheet 4-W.
3. Write the revised project package amount from Worksheet 4-W in column 2 of Worksheet 5-W.
4. Repeat this exercise for each funding package.
5. Choose which funding scenario makes sense for each project package.
6. Repeat this exercise using Worksheet 5-WW for wastewater system improvement packages.

Exercise: Summarize system project packages and financing

Blank worksheets are provided in Appendix A.

1. Use Worksheet 8-W to summarize the chosen financing from Worksheet 5-W for each project package.
2. Use Worksheet 8-WW to summarize the chosen financing from Worksheet 5-WW for each project package.
3. Use Worksheet 8-T to summarize the chosen financing from Worksheet 5-T. (Even though none of the project packages on Worksheet 5-T were modified in this chapter, transportation packages information should still be summarized on Worksheet 8-T).

Sample Worksheet 8-W — Summary of Water System Project Packages and Financing

Project package number	*Year package will be funded*	*How are projects related*	*Total package cost*	*Amount financed*	*Impact on monthly user rates*	*Source of financing*	*Gap to be financed*	*Plan for financing gap*
1	1999	Downtown business retention improvements	793,000	621,400	41.55	CERB	171,600	Revenue bond
1	1999	Downtown business retention improvements	793,600	171,600	10.39	Revenue bond	621,400	CERB
2	2001	Residential and preventive improvements	148,000	148,000	1.44	RUS	0	____
3	2002	New residential development improvements	54,000	54,000	0	Develop -er fees	0	____
4	2004	Storage tank construction	260,000	260,000	3.29	DWSRF	260,000	Reserves
4	2004	Storage tank construction	260,000	260,000	0	Reserve	260,000	DWSRF

Chapter

9

The Impacts of Financing on Other Systems

Although all of the funding packages for a system may make sense in relation to each other, it is important to check whether those funding decisions impact the proposed financing scenarios for other systems.

Financing choices for one system can affect the financing choices of other systems in many ways, including the following:

Exceeding general obligation debt limits – If one system's project packages count heavily on having general obligation (GO) debt available, this limits the amount of GO debt capacity available for another system. Changing the source of backing for the loans to the system's revenue fund and using a revenue bond instead of a GO bond is one possible solution.

Damaging the creditworthiness of the community – There are legal limits on general obligation debt capacity and practical limits on both GO debt and each system's revenue fund debt capacity. If one system is somewhat debt free, but another system is heavily burdened with debt, the system with no debt cannot borrow without worry. Usually, if the community is trying to get private financing or issue bonds, both systems' indebtedness will be considered, because the users paying off the debt have limits as to what they can afford in total for both systems.

Overlapping user rate increases – Significantly increasing more than one utility's user rates at one time can be politically unwise. Most users prefer to have time to recover between user rate increases. If the rates of one utility will have to increase significantly to make the required debt payments, see if the other system will also require a user rate increase at the same time. If so, consider staggering the rate increases when new debt is taken on.

Over-relying on a competitive funding source – Although communities often tend to have favorite funding programs, over-reliance on these programs can be problematic. For example, if one system is scheduled to receive major financing for improvements from a certain program, it may not make sense to submit an application to the same program for another system's package of

improvements. A program with limited funds may choose to fund one package over another, which may not match the community's choice. It may be wiser for a community to select the most important package and submit an application for that package, and then submit an application for the other package during the next funding cycle. Other funding programs also may have limits on total investments in a particular community.

Over-relying on unplanned growth – Gambling on growth may encourage a community to build a large amount of excess capacity into one of its utility systems. If growth does not occur, the community still must make the required debt payments. Dipping into reserves to pay off this debt can be burdensome enough without having to worry about more than one system's facilities.

Making the environment for growth unattractive – If a community has planned to collect major portions of repayment funds from new growth, it needs to consider whether the community is attractive to growth or "growth-friendly." Part of being growth-friendly means having reasonable terms for connecting to infrastructure facilities. If one system is scheduled for recouping costs for providing excess capacity with high system development charges, impact fees and/or hookup fees, a new business or individual may not have too much trouble locating in the community. However, having to pay high charges or fees for more than one system can be enough to make a business or individual think twice about coming to the community.

Burdening local administrative staff – Applying for loans and managing bonds and assessments requires a great deal of administrative work. If community staff will be heavily loaded with work in one year trying to line up financing, but less busy the following year, the community should consider spreading the application work over several years, especially if it will result in more competitive grant writing.

Over-committing local public works staff – Using local public works staff can help reduce the need for more expensive contract labor and in some cases count toward meeting local match requirements. However, over-committing local public works staff may actually delay system improvements, make labor contributions ineligible for match or increase costs for completing a project package. Consider how local labor is used, changing the date a loan is received or increasing the loan amount to accommodate more expensive labor options.

Burdening rate payers and taxpayers with more than one cost increase in a short period of time – It is important to consider how rate or tax increases required by one local government overlap with other local governments. Even though a city and a school district are separate entities, if both are trying to pass a bond at the same time, individual taxpayers will be affected by both. Communities should try to coordinate rate or tax increases between cities and other taxing districts (e.g., port, school, or library districts) and reschedule elections if necessary.

Competing with nearby entities for grant or loan funds – It is best if a city and a special district within the city do not apply for a government grant or loan from the same program at the same time. Even though the city and the special district are separate entities, funding programs may fund only one proposal from the community, even if both proposals are good.

Chapter
10

Implementing the Financing Plan

Even the best infrastructure financing plan is useless unless it is understood and implemented. This is the shared responsibility of the community, staff, elected officials, consultants and funders. Some ideas on how implementing the plan can be made easier are listed in the following pages. Don't wait until financing packages are finished – incorporate these ideas into the financial packaging process from the beginning.

Develop a public information and education strategy – All infrastructure financing decisions affect citizens in one way or another. A well-prepared financing plan can help explain why user rates or tax assessments will increase. Involving citizens in the process of putting together a financing plan will help to increase support for decisions and trust in decision-makers.

Integrate the financing plan with the local budget system or process – The financing plan for the community should drive the annual budget process. This requires department heads to coordinate on the costs of operation and improvement, grant and loan management, applications, and project management.

Coordinate the financing plan with changes in community priorities – Facility needs and financing options may change as the community's projects and priorities change. Update the plan to reflect these changes. This may mean using other funding sources or rethinking how community needs match with funding program priorities.

Get buy-in from funders – This manual does not include all of the terms, regulations, and conditions governing each funding program. Discuss a community's financing plan with funding program staff and adjust it based upon whether they think it is realistic.

Work together with consultants to make sure that future capital improvement planning matches the financing plan – The community's capital facilities plan (CFP) must be growth-conscious. Update the CFP to match the financing plan and vice versa. This will help ensure that systems will be designed and financed so that capacity can be easily added. Most important, engineering and financing solutions will more closely match the community's long-term needs.

Coordinate plans with neighboring jurisdictions and special districts – Regional solutions can reduce the costs of issuing bonds, grant and loan administration, and operation and maintenance. Coordinate infrastructure planning, financing and operation with other local governments in the area.

Pass on institutional knowledge and commitment to newly-elected officials, staff and the public – When administrations change, a well-documented financing plan can serve as a roadmap for the new administration. This can help maintain and shelter the infrastructure financing process from political changes.

Check how well the financing plan is being followed at yearly intervals – If the plan is not followed, it will not be useful. Check how the plan is being used and determine if the community's operations or the plan itself needs to be adjusted.

Appendix A — Blank Worksheets

Worksheet 1-W — Projected Costs for Water System Improvements by Project, Phase and Year

1	2	3	4	5	6	7	8	9	10
Project	***Total project cost (before any possible savings)***	***Project phase***	***Year***	***Phase cost***	***Possible savings***	***Source of savings***	***Total cost after savings***	***Costs for meeting existing needs***	***Costs for meeting excess capacity needs***
		Planning							
		Pre-construction							
		Construction							
		Planning							
		Pre-construction							
		Construction							
		Planning							
		Pre-construction							
		Construction							
		Planning							
		Pre-construction							
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		Planning							
		Pre-construction							
		Construction							
		Planning							
		Pre-construction							
		Construction							
		Planning							
		Pre-construction							
		Construction							
		Planning							
		Pre-construction							
		Construction							
Total		Planning							
		Pre-construction							
		Construction							

Worksheet 1-WW — Projected Costs for Wastewater System Improvements by Project, Phase and Year

1	2	3	4	5	6	7	8	9	10
Project	***Total project cost (before any possible savings)***	***Project phase***	***Year***	***Phase cost***	***Possible savings***	***Source of savings***	***Total cost after savings***	***Costs for meeting existing needs***	***Costs for meeting excess capacity needs***
		Planning							
		Pre-construction							
		Construction							
		Planning							
		Pre-construction							
		Construction							
		Planning							
		Pre-construction							
		Construction							
		Planning							
		Pre-construction							
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		Planning							
		Pre-construction							
		Construction							
		Planning							
		Pre-construction							
		Construction							
		Planning							
		Pre-construction							
		Construction							
		Planning							
		Pre-construction							
		Construction							
Total		Planning							
		Pre-construction							
		Construction							

Worksheet 1-T — Projected Costs for Transportation System Improvements by Project, Phase and Year

1	2	3	4	5	6	7	8	9	10
Project	***Total project cost (before any possible savings)***	***Project phase***	***Year***	***Phase cost***	***Possible savings***	***Source of savings***	***Total cost after savings***	***Costs for meeting existing needs***	***Costs for meeting excess capacity needs***
		Planning							
		Pre-construction							
		Construction							
		Planning							
		Pre-construction							
		Construction							
		Planning							
		Pre-construction							
		Construction							
		Planning							
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		Construction							
		Planning							
		Pre-construction							
		Construction							
		Planning							
		Pre-construction							
		Construction							
		Planning							
		Pre-construction							
		Construction							
Total		Planning							
		Pre-construction							
		Construction							

Worksheet 2 — Calculation of General Obligation Debt Capacity

Assessed value (AV) of taxable property $_____

GENERAL PURPOSE LEGAL DEBT LIMIT (combination of voted and non-voted)
Non-voted legal debt limit (can be up to 1.5% of AV) = ___%

Total non-voted general purpose legal debt limit = ___% x AV =	***$_____***
Less: Outstanding non-voted debt (bonds, notes, etc.)	($_____)
Less: Contracts payable (lease-purchases, conditional sales contracts)	($_____)
Plus: Available net assets in debt service fund	$_____
Equals: ***Remaining non-voted debt capacity for general purposes***	***$_____***

Voted limit = 2.5% minus non-voted legal debt limit = ___%

Total voted general purpose legal debt limit = ___% x AV =	***$_____***
Less: Outstanding voted debt	($_____)
Less: Contracts payable (lease-purchases, conditional sales contracts)	($_____)
Plus: Available net assets in debt service fund and excess taxes levied for repayment	$_____
Equals: ***Remaining voted debt capacity for general purposes***	***$_____***

UTILITY PURPOSE LEGAL DEBT LIMIT (voted)

Total utility purpose legal debt limit = 2.5% x AV =	***$_____***
Less: Outstanding voted debt	($_____)
Less: Contracts payable (lease-purchases, conditional sales contracts)	($_____)
Plus: Available net assets in debt service fund and excess taxes levied for repayment	$_____
Equals: ***Remaining debt capacity for utility purposes***	***$_____***

PARKS PURPOSE LEGAL DEBT LIMIT (voted)

Total parks purpose legal debt limit = 2.5% x AV =	***$_____***
Less: Outstanding voted debt	($_____)
Less: Contracts payable (lease-purchases, conditional sales contracts)	($_____)
Plus: Available net assets in debt service fund and excess taxes levied for repayment	$_____
Equals: ***Remaining debt capacity for parks purposes***	***$_____***

Worksheet 3-W — Water System Funding Possibilities

Funding Source[1]	***Planning***	***Pre-construction***	***Construction***	
			Existing needs	***Excess capacity needs***
CDBG Planning only grant	X			
CDBG General Purpose grant		X	X	
CDBG CIF grant			X	
CERB Rural Program	X		X	X
CERB Traditional Program			X	X[2]
CERB Pre-development and Planning Grant	X			
USDA Forest Service RCAP grant	X	X		
PWTF CFP program loan	X			
PWTF Pre-Construction loan		X		
PWTF Construction loan			X	
Rural Opportunity Fund	X	X		
DWSRF loan	X	X	X	X[3]
USDA RD-RUS Water and Waste Disposal Loans and Grants, Direct and Guaranteed Loans		X	X	X[4]
USDA RD RBS RBEG grant			X	
EDA Public Works Construction grant			X	X
Voted GO bond			X	X
Revenue bond			X	X
Special assessment bond			X	X
Real estate excise tax	X	X	X	X
Utility capital reserves	X	X	X	X
System development charges				X
SEPA-authorized mitigation fees				X
Retained local option sales and use tax revenues			X	X

[1] See "Acronyms" page at beginning of manual.
[2] Must have "bird in hand."
[3] Excess capacity needs up to 20 years.
[4] Can fund "foreseeable, reasonable" growth needs.

Worksheet 3-WW — Wastewater System Funding Possibilities

Funding Source[5]	***Planning***	***Pre-construction***	***Construction***	
			Existing needs	***Excess capacity needs***
CDBG Planning only grant	X			
CDBG General Purpose grant		X	X	
CDBG CIF grant			X	
CERB Rural Program	X		X	X
CERB Traditional Program			X	X[6]
CERB Predevelopment and Planning Grant	X			
USDA Forest Service RCAP grant	X	X		
CCWF matching grant or loan	X	X	X	X[7]
Clean Water SRF loan			X	X[8]
PWTF CFP Program loan	X			
PWTF Pre-Construction loan		X		
PWTF Construction loan			X	
Rural Opportunity Fund	X	X		
USDA RD-RUS Water and Waste Disposal grants and direct and guaranteed loans		X	X	X[9]
USDA RD RBS RBEG grant			X	X
EDA Public Works Construction grant			X	
Real estate excise tax	X	X	X	X
Utility capital reserves	X	X	X	X
System development charges				X
Voted general obligation bond			X	X
Revenue bond			X	X
Special assessment bond			X	X
SEPA-authorized mitigation fees				X
Retained local option sales and use tax revenues			X	X

[5] See "Acronyms" page at beginning of manual.
[6] Must have "bird in hand.
[7] Up to 110% of existing need.
[8] Can fund needs expected during next 20 years.
[9] Can fund "foreseeable, reasonable" growth needs.

Worksheet 3-T — Transportation System Funding Possibilities

Funding Source[10]	*Planning*	*Pre-construction*	*Construction*	
			Existing needs	*Excess capacity needs*
CDBG General Purpose grant			X	
CDBG CIF grant			X	
EDA Public Works Construction Program grant			X	
ISTEA grant		X	X	
UATA grant		X	X	
TIA grant		X	X	
CRAB Rural Arterial Program grant		X	X	
PWTF CFP loan	X			
PWTF Pre-construction loan		X		
PWTF Construction Program loan			X	
CERB Traditional Program loan			X	X[11]
CERB RNR Program loan			X	X
USDA RD RHS Capital Facilities grants and direct and guaranteed loans		X	X	X
Voted general obligation bond			X	X
Councilmanic general obligation bond			X	X
Special assessment bond			X	X
Revenues from general fund reserves	X	X	X	X
Street fund reserves	X	X	X	X
SEPA-authorized mitigation fees				X
GMA-authorized impact fees				X
Retained local option sales and use tax revenues			X	X
CERB REV Program		X	X	X

[10] See "Acronyms" page at beginning of manual.
[11] Must have "bird in hand."

Worksheet 4-W — Water System Project Packages

Package #_____

How are projects in this package related? _____

_____

Project	*Total Pre-construction and Construction Costs*	
	Existing Needs	*Excess Capacity*
Total		

Worksheet 4-WW — Wastewater System Project Packages

Package #_____

How are projects in this package related? _____

_____

Project	***Total Pre-construction and Construction Costs***	
	Existing Needs	***Excess Capacity***
Total		

Worksheet 4-T — Transportation System Project Packages

Package #_____

How are projects in this package related? _____

_____

Project	***Total Pre-construction and Construction Costs***	
	Existing Needs	***Excess Capacity***
Total		

Worksheet 5-W — Compare Water System Funding Scenarios

Package #: _____ ***Total Cost of Package:*** _____ ***Cost to Meet Existing Needs:*** _____ ***Cost to Provide Excess Capacity:*** _____

1	2	3	4	5	6	7	8	9	10	11
Program	***Amount financed***	***Term of loan/bond***	***Rate of loan/bond***	***Total of principal and interest payments over life of loan/bond***	***Added costs*** *(e.g., surveys, management, bond counsel, loan fees)*	***Amortization factor***	***Annual payments required***	***Local cash match required***	***Local in-kind match possible***	***Impact on monthly user rates***

What is more important to the community: lower overall cost in the long term, or lower monthly cost? _____

_____

Is the term of the loan longer than the life expectancy of the facility being financed? _____

_____

Also consider:

What portion of the cost to provide excess capacity will be recovered through hookup fees? _____

What portion of the cost to provide excess capacity will be recovered through system development charges? _____

What portion of the cost to provide excess capacity will be recovered through special assessments? _____

Worksheet 5-WW — Compare Wastewater System Funding Scenarios

Package #: _____ ***Total Cost of Package:*** _____ ***Cost to Meet Existing Needs:*** _____

1	2	3	4	5	6	7	8	9	10	11
Program	***Amount financed***	***Term of loan/bond***	***Rate of loan/bond***	***Total of principal and interest payments over life of loan/bond***	***Added costs*** *(e.g., surveys, management, bond counsel, loan fees)*	***Amortization factor***	***Annual payments required***	***Local cash match required***	***Local in-kind match possible***	***Impact on monthly user rates***

What is more important to the community: lower overall cost in the long term, or lower monthly cost? _____

_____

Is the term of the loan longer than the life expectancy of the facility being financed? _____

_____

Also consider:

What portion of the cost to provide excess capacity will be recovered through hookup fees? _____

What portion of the cost to provide excess capacity will be recovered through system development charges? _____

What portion of the cost to provide excess capacity will be recovered through special assessments? _____

Worksheet 5-T — Compare Transportation System Funding Scenarios

Package #: _____ ***Total Cost of Package:*** _____ ***Cost to Meet Existing Needs:*** _____ ***Cost to Provide Excess Capacity:*** _____

1	2	3	4	5	6	7	8	9	10
Program	***Amount financed***	***Term of loan/bond***	***Rate of loan/bond***	***Total of principal and interest payments over life of loan/bond***	***Added costs*** *(e.g., surveys, management, bond counsel, loan fees)*	***Amortization factor***	***Annual payments required***	***Local cash match required***	***Local in-kind match possible***

What is more important to the community: lower overall cost in the long term, or lower monthly cost? _____

_____

Is the term of the loan longer than the life expectancy of the facility being financed? _____

_____

Also consider:

What portion of these costs will be recovered through impact fees? _____

What portion of these costs will be recovered through special assessments? _____

Worksheet 6 — Calculate the impact of financing plan scenarios on user rates

Annual debt service for new debt:

Principal Amount	x	Debt Amortization Factor	=	Annual Debt Service for New Debt

Annual new debt service with coverage:

Coverage %	x	Annual Debt Service for New Debt	=	Coverage Required

Total annual amount needed to service debt with coverage:

Annual Debt Service for New Debt	+	Coverage Required	=	Total Annual Amount Needed to Service New Debt with Coverage

Total annual payment per connection for new debt service and coverage:

Total Annual Amount Needed to Service New Debt with Coverage	÷	Number of Connections	=	Total Annual Debt Payment per Connection for New Debt

Total monthly debt payment per connection for new debt service and coverage:

Total Annual Debt Payment per Connection for New Debt	÷	12 months	=	Total Monthly Debt Payment per Connection for New Debt

Total monthly debt payment per connection for new and existing debt:

Total Monthly Debt Payment per Connection for New Debt	+	Current Monthly Debt Payment per Connection for Existing Debt	=	Total Monthly Debt Payment per Connection for New and Existing Debt

Worksheet 7 — Calculate the non-debt portion of user rates

Total present annual non-debt expenses:

_____ Total Present Annual System Expenses	–	_____ Present Annual Debt Payments	=	_____ Total Present Annual Non-Debt Expenses

Inflation factor for annual non-debt expenses:

.044	x	_____ Number of Years before Financing is Received	+	1.04	=	_____ Inflation Factor

Total projected annual non-debt expenses:

_____ Total Present Annual Non-Debt Expenses	x	_____ Inflation Factor	=	_____ Total Projected Annual Non-Debt Expenses

Total projected monthly non-debt expenses:

_____ Total Projected Annual Non-Debt Expenses	÷	12 months	=	_____ Total Projected Monthly Non-Debt Expenses

Total projected monthly non-debt payments per connection:

_____ Total Projected Monthly Non-Debt Expenses	÷	_____ Number of Connections	=	_____ Total Projected Monthly Non-Debt Payments per Connection

Total projected monthly rate per connection:

_____ Total Projected Monthly Non-Debt Payments per Connection	+	_____ Total Monthly Debt Payment per Connection for New and Existing Debt	=	_____ Total Projected Monthly Rate per Connection

Affordability check (circle one):

Is Total Projected Monthly Rate per Connection less than or equal to 1.5% of MHI? Y N

Previous rates = $_____/month New rates would be = $_____/month

What percentage change is this?

Also consider: Will operations and maintenance costs change as a result of the improvements made?

Worksheet 8-W — Summary of Water System Project Packages and Financing

Project package number	*Year package will be funded*	*How are projects related*	*Total package cost*	*Amount financed*	*Impact on monthly user rates*	*Source of financing*	*Gap to be financed*	*Plan for financing gap*

Worksheet 8-WW — Summary of Wastewater System Project Packages and Financing

Project package number	*Year package will be funded*	*How are projects related*	*Total package cost*	*Amount financed*	*Impact on monthly user rates*	*Source of financing*	*Gap to be financed*	*Plan for financing gap*

Worksheet 8-T — Summary of Transportation System Project Packages and Financing

Project package number	*Year package will be funded*	*How are projects related*	*Total package cost*	*Amount financed*	*Impact on monthly user rates*	*Source of financing*	*Gap to be financed*	*Plan for financing gap*

Appendix B — Summary of Government Loan Programs for Infrastructure Improvements

Summary of Government Loan Programs for Infrastructure Improvements

Program	*Agency*	*Eligible projects*	*Eligible applicants*	*Maximum loan*	*Loan terms/ interest*	*Match required*	*How to apply*
State Water Pollution Control Revolving Fund (Clean Water SRF)	Washington State Department of Ecology	Planning, pre-construction, and construction projects associated with publicly-owned wastewater treatment facilities; non-point source pollution control projects; can fund existing need plus up to 20 years capacity for growth.	Counties, cities, towns, tribes, conservation districts, or other political subdivision, and municipal or quasi-municipal corporations.	Contact program staff.	Low-interest loans, based on a percentage of market rate. Loan term 0-20 years.	Not required.	Applications due end of February. Phone: 360/407-6510
Centennial Clean Water Fund (CCWF) – Regular Program	Washington State Department of Ecology	Planning, implementation, design, acquisition, construction, and improvement of water pollution control facilities and activities; grants and loans for existing need; loans for existing need plus 10% for growth.	Counties, cities, towns, conservation districts, or other political subdivision, municipal or quasi-municipal corporations, and tribes.	$2.5 million for facilities; $250,000 for activities (FY96 cycle).	Low-interest loans, based on a percentage of market rate. Loan term 0-20 years.	Not required.	Applications due end of February. Phone: 360/407-6566

Summary of Government Loan Programs for Infrastructure Improvements

Program	*Agency*	*Eligible projects*	*Eligible applicants*	*Maximum loan*	*Loan terms/ interest*	*Match required*	*How to apply*
Public Works Trust Fund (PWTF) – Construction Program	Washington State Public Works Board	Repair, replacement, or improvement of existing domestic water, sanitary sewer, storm sewer, solid waste, road, and bridge projects. Solid waste and recycling projects.	Counties, cities, and special purpose districts (but not school districts or port districts) meeting certain requirements – contact program staff.	$7-10 million per jurisdiction.	Low-interest loans of 1%, 2%, or 3% (rates vary depending on local match). Loan term 20 years.	10-30% local match; match must be from locally-generated revenues; federal or state grants not eligible to match these loans.	Applications due in April. Phone: 360/586-0659
Public Works Trust Fund (PWTF) – Pre-Construction Program	Washington State Public Works Board	Pre-construction activities (e.g., preliminary engineering, design engineering, bid-document preparation, right-of-way acquisition, environmental studies) associated with projects for repair, replacement or improvement of existing domestic water, sanitary sewer, storm sewer, solid waste, roads, and bridge systems.	Counties, cities, and special purpose districts (but not school districts or port districts) meeting certain requirements – contact program staff.	$1 million per jurisdiction.	Low-interest loans of 1%, 2%, or 3% (rates vary depending on local match). Maximum loan term 5 years; converted to 20 year loan term when construction funding is secured.	10-30% local match; match must be from locally-generated revenues; federal or state grants not eligible as match.	Applications due in September. Phone: 360/753-4283

Summary of Government Loan Programs for Infrastructure Improvements

Program	*Agency*	*Eligible projects*	*Eligible applicants*	*Maximum loan*	*Loan terms/ interest*	*Match required*	*How to apply*
Public Works Trust Fund (PWTF) – Capital Facilities Planning program	Washington State Public Works Board	May be used for single or multiple system covering eligible systems. Eligible activities include updates to exisiting CFPs.	Counties, cities, and special purpose districts (but not school districts or port districts) whose Growth Management Act (GMA) deadline has not passed, or jurisdictions not planning under GMA.	$30,000 per jurisdiction.	Zero percent (0%) interest loans.	At least 25% local match; match must be from locally-generated revenues; federal or state grants not eligible as match.	Application cycle is year-round, on a fund-available basis. Phone: 360/664-2856
Drinking Water State Revolving Fund (DWSRF)	Washington State Public Works Board and Washington State Department of Health (DOH)	Projects that facilitate planning, design, and construction of improvements aimed at increasing public health protection.	Community and non-community (for-profit and non-profit) water systems, except federal and state owned systems.	Varies according to population and ownership.	Low-interest loans. Not to exceed 20 years.	Loans require a 10% locally-generated match; federal or state grants are not eligible as match.	Applications due in July. Phone: 360/586-1310 360/236-3093

Summary of Government Loan Programs for Infrastructure Improvements

Program	*Agency*	*Eligible projects*	*Eligible applicants*	*Maximum loan*	*Loan terms/ interest*	*Match required*	*How to apply*
Community Economic Revitalization Board (CERB) – Traditional Program	Washington State Community Economic Revitalization Board (CERB) and Department of Community, Trade and Economic Development	Construction projects associated with sanitary sewer, storm sewer, domestic and industrial water, access roads, bridges, railroad spurs, electricity, natural gas, general purpose industrial buildings, and port facilities; funds growth.	Statewide; for economically disadvantaged communities, including: counties, cities, towns, port districts, special purpose districts, and municipal/ quasi-municipal corporations providing for public facilities.	$1,000,000	Low-interest loans. May defer principal and interest for a maximum of 5 years; 20-year maximum term, including deferral.	Loans require a minimum 10% match. Leveraging with other funds is encouraged.	Application cycle is year-round, on a fund-available basis. Phone: 360/586-0657
Community Economic Revitalization Board (CERB) – Rural Natural Resources Program (RNR)	Washington State Community Economic Revitalization Board (CERB) and Department of Community, Trade and Economic Development	Planning, pre-construction, and construction projects associated with new infrastructure projects (same systems as above); feasibility studies; funds growth.	Communities affected by the downturn in the timber and salmon industries, including: counties, cities, towns, port districts, special purpose districts, and municipal/ quasi-municipal corporations providing for public facilities.	$500,000	Low-interest loans. May defer principal and interest for a maximum of 5 years; 20-year maximum term, including deferral.	Loans require a minimum 10% match. Leveraging with other funds is encouraged.	Application cycle is year-round, on a fund-available basis. Joint application with PWTF RNR program. Phone: 360/586-0657

Summary of Government Loan Programs for Infrastructure Improvements

Program	*Agency*	*Eligible projects*	*Eligible applicants*	*Maximum loan*	*Loan terms/ interest*	*Match required*	*How to apply*
Water and Waste Disposal Direct Loans and Grants	United States Department of Agriculture (USDA) – Rural Development – Rural Utilities Service (RUS)	Pre-construction, and construction projects associated with constructing, repairing, improving, expanding, or modifying drinking water, wastewater, solid waste disposal, and storm drainage facilities.	Cities and towns with population of 10,000 or less, counties, special purpose districts, and tribes unable to obtain funds from other sources at reasonable rates and terms.	$16 million.	Low-interest loans. 40-year maximum term.	No local match required.	Application cycle is year-round, on a fund-available basis. Phone: 509/664-0200 360/704-7708
Water and Waste Disposal Guaranteed Loans	United States Department of Agriculture (USDA) – Rural Development – Rural Utilities Service (RUS)	Drinking water, wastewater, solid waste disposal, and storm drainage projects.	Cities and towns with population of 10,000 or less, counties, special purpose districts, and tribes unable to obtain funds from other sources at reasonable rates and terms.	80% guaranteed; may increase to 90% for extreme situations.	Guaranteed loans are made and serviced by lender such as banks or savings and loan associations.	No local match required.	Application cycle is year-round, on a fund-available basis. Phone: 509/664-0200 360/704-7708

Summary of Government Loan Programs for Infrastructure Improvements							
Program	***Agency***	***Eligible projects***	***Eligible applicants***	***Maximum loan***	***Loan terms/ interest***	***Match required***	***How to apply***
Community Facility Direct Loans	United States Department of Agriculture (USDA) – Rural Development – Rural Housing Service (RHS)	Construct, enlarge, or improve community facilities for health care, public safety, and public services. Public services that can be funded include, but are not limited to, off-street parking facilities, sidewalks, and street improvements. Also, land acquisition and site preparation for industrial park, including utilities throughout.	Municipalities, counties, special purpose districts, non-profit corporations, and tribal governments unable to obtain commercial credit to develop essential public facilities in rural areas and towns up to 50,000 in population.	Contact program staff.	Low-interest loans. 40-year maximum term; repayment period is limited to the useful life of the facility or any statutory limitation on the applicant's borrowing authority. Interest rates based on current market yields.	No local match required.	Application cycle is year-round, on a fund-available basis. Phone: 360/704-7761

Summary of Government Loan Programs for Infrastructure Improvements							
Program	***Agency***	***Eligible projects***	***Eligible applicants***	***Maximum loan***	***Loan terms/ interest***	***Match required***	***How to apply***
Community Facility Guaranteed Loans	United States Department of Agriculture (USDA) – Rural Development – Rural Housing Service (RHS)	Construct, enlarge, or improve community facilities for health care, public safety, and public services. Public services that can be funded include, but are not limited to, off-street parking facilities, sidewalks, and street improvements. Also, land acquisition and site preparation for industrial park, including utilities throughout.	Municipalities, counties, special purpose districts, non-profit corporations, and tribal governments to develop essential public facilities in rural areas and towns up to 50,000 in population.	80% guaranteed; may increase to 90% for extreme situations.	Guaranteed loans are made and serviced by lender such as banks or savings and loan associations. May be fixed or variable interest rates, determined by lender and borrower.	No local match required.	Application cycle is year-round, on a fund-available basis. Phone: 360/704-7761

Appendix C — Summary of Government Grant Programs for Infrastructure Improvements

Summary of Government Grant Programs for Infrastructure Improvements						
Program	***Agency***	***Eligible projects***	***Eligible applicants***	***Maximum grant***	***Match required***	***How to apply***
Clean Water Act Section 319 Nonpoint Source Program	Washington State Department of Ecology	Implementing nonpoint source pollution activities and projects.	Counties, cities, towns, tribes, conservation districts, other political subdivision, and municipal or quasi-municipal corporations.	Contact program staff.	Activity grants require a 25% match.	Applications due end of February. Phone: 360/407-6509
Centennial Clean Water Fund (CCWF) – Regular Program	Washington State Department of Ecology	Planning, implementation, design, acquisition, construction, and improvement of water pollution control facilities and activities; grants for existing need; loans for existing need plus 10% for growth.	Counties, cities, towns, conservation districts, other political subdivision, municipal or quasi-municipal corporations, and tribes.	Contact program staff.	Facility grants require a base 50% match. Activity grants require a 25% match.	Applications due end of February. Phone: 360/407-6566

Summary of Government Grant Programs for Infrastructure Improvements						
Program	***Agency***	***Eligible projects***	***Eligible applicants***	***Maximum grant***	***Match required***	***How to apply***
Community Development Block Grant (CDBG) – Entitlement Programs	King County Pierce County Clark County Snohomish County	Contact county program staff.	Entitlement counties and cities; projects must principally benefit low- to moderate- income people.	Contact county program staff.	Contact county program staff.	Contact county program staff.
Community Development Block Grant[1] (CDBG) – General Purpose	Washington State Department of Community, Trade and Economic Development	Final design and construction of domestic wastewater, side sewer connections, drinking water, stormwater, roads, streets, and bridge projects.	Non-entitlement[2] counties and cities; projects must principally benefit low- to moderate-income people.	$750,000	No match required, but local contribution and gap financing preferred.	Applications due in November. One application per eligible applicant per funding cycle. Phone: 360/753-2223
Community Development Block Grant (CDBG) – Planning Only	Washington State Department of Community, Trade and Economic Development	Comprehensive plans; infrastructure plans; feasibility studies; community action plans; and low income housing assessments.	Non-entitlement counties and cities; projects must principally benefit low- to moderate-income people.	$24,000 single jurisdiction; $40,000 multiple jurisdictions.	No match required, but local contribution and gap financing preferred.	Contact program staff. Phone: 360/586-6925

[1] CDBG funds can be used as non-federal match for other programs.

[2] "Non-entitlement" means cities and towns with less than 50,000 population or counties with less than 200,000 population, provided that the cities, towns, and counties do not participate in HUD Urban County Consortiums.

Summary of Government Grant Programs for Infrastructure Improvements						
Program	***Agency***	***Eligible projects***	***Eligible applicants***	***Maximum grant***	***Match required***	***How to apply***
Community Development Block Grant (CDBG) – Community Investment Fund (CIF)	Washington State Department of Community, Trade and Economic Development	Top priority projects from WA-CERT list or federal Empowerment Zone/Enterprise Community.	Non-entitlement counties and cities; projects must principally benefit low- to moderate-income people.	No maximum award amount but need for a grant must be clearly identified.	No match required, although intended to provide gap financing.	Application cycle is year-round, on a fund-available basis. Phone: 360/586-6925
Community Economic Revitalization Board (CERB) – Traditional Program	Washington State Community Economic Revitalization Board (CERB) and Washington State Department of Community, Trade and Economic Development	Sanitary sewer, storm sewer, domestic and industrial water, access roads, bridges, railroad spurs, electricity, natural gas, general purpose industrial buildings, and port facilities telecommunication; land stabilization funds growth.	Statewide; for economically disadvantaged communities, including: counties, cities, towns, port districts, special purpose districts, municipal corporations, and quasi-municipal corporations providing public facilities.	Grants only in special circumstances; must be part of a grant/loan package..	Grants require a minimum 10% match. Leveraging with other funds is encouraged.	Application cycle is year-round, on a fund-available basis. Phone: 360/586-0657

Summary of Government Grant Programs for Infrastructure Improvements						
Program	***Agency***	***Eligible projects***	***Eligible applicants***	***Maximum grant***	***Match required***	***How to apply***
Community Economic Revitalization Board (CERB) – Rural Natural Resources Program (RNR)	Washington State Community Economic Revitalization Board (CERB) and Washington State Department of Community, Trade and Economic Development	Sanitary sewer, storm sewer, domestic and industrial water, access roads, bridges, railroad spurs, electricity, natural gas, general purpose industrial buildings, and port facilities telecommunication; land stabilization funds growth.	Communities affected by the downturn in the timber and salmon industries, including: counties, cities, towns, port districts, special purpose districts, municipal corporations, and quasi-municipal corporations providing public facilities.	Grants only in special circumstances.	Grants require a minimum 10% match. Leveraging with other funds is encouraged.	Application cycle is year-round, on a fund-available basis. Phone: 360/586-0657
Community Economic Revitalization Board (CERB) – Rural Natural Resources Program (RNR)	Washington State Community Economic Revitalization Board (CERB)	Project specific-environmental, capital facilities, land use, permitting, feasibility and marketing studies and plans, project design, site planning and analysis; project debt fund revenue impact analysis.	Same as above.	Grants up to $50,000.	50% match per project (can be combination of cash and inkind); lower match maybe considered with proper justification.	Application cycle is year-round, on a fund-available basis. Phone: 360/586-0657

Summary of Government Grant Programs for Infrastructure Improvements						
Program	***Agency***	***Eligible projects***	***Eligible applicants***	***Maximum grant***	***Match required***	***How to apply***
Water and Waste Disposal Direct Loans and Grants	United States Department of Agriculture (USDA) – Rural Development – Rural Utilities Service (RUS)	Construct, repair, improve, expand, or modify drinking water, wastewater, solid waste disposal, and storm drainage facilities; legal and engineering fees.	Cities and towns with population of 10,000 or less, counties, special purpose districts, and tribes unable to obtain funds from other sources at reasonable rates and terms.	Maximum 75% of total project costs can be granted and must be part of a grant-loan package.	No local match required.	Application cycle is year-round, on a fund-available basis. Phone: 509/664-0200
Rural Business Enterprise Grant Program (RBEG)	United States Department of Agriculture (USDA) – Rural Development – Rural Business Service (RBS)	Rural business utility extensions including services to industrial parks; project must result in saving or creating jobs in eligible rural communities; can fund for growth and job creation.	Private non-profits, municipalities, Indian tribes; population must be 50,000 or less.	Contact program staff.	No match required, but highly competitive program and priority points are awarded for increasing percentage of match.	Application cycle is year-round, on a fund-available basis. Phone: 509/454-5743

Summary of Government Grant Programs for Infrastructure Improvements						
Program	***Agency***	***Eligible projects***	***Eligible applicants***	***Maximum grant***	***Match required***	***How to apply***
Community Facilities Grants	United States Department of Agriculture (USDA) – Rural Development – Rural Housing Service (RHS)	Construct, enlarge, or improve community facilities for health care, community or cultural services, public safety, and public services. Public services include, but are not limited to streets, sidewalks, and bridges.	Municipalities, counties, special purpose districts, non-profit corporations, and tribes to develop community facilities for public use in rural areas and towns with poverty income level and population of not more than 25,000.	Maximum 75% of total project costs; but usually 50% of total project costs or $50,000, whichever is greater.	No local match required.	Application cycle is year-round, on a fund-available basis. Phone: 360/704-7761
Rural Development Program	United States Department of Agriculture (USDA) – Forest Service	Planning and project implementation for resource-related projects; projects do not have to be identified in an existing plan.	Rural communities where the Forest Service has a significant presence or interest, and where persistent problems such as low per capita income indicate the need for more coordinated federal assistance.	$50,000	No federal funds may be used to match Forest Service funds.	Application cycle is year-round, on a fund-available basis. Phone: 360/956-2306

Summary of Government Grant Programs for Infrastructure Improvements						
Program	***Agency***	***Eligible projects***	***Eligible applicants***	***Maximum grant***	***Match required***	***How to apply***
Economic Recovery Program	United States Department of Agriculture (USDA) – Forest Service	Planning and project implementation for projects identified in an existing plan.	Municipalities, tribes and unincorporated areas of less than 10,000 population. Communities that are within 100 miles of National Forest lands, have a 15% dependency on natural resource-based industries, and have developed a strategic plan with Forest Service involvement and an annual action plan that prioritizes community needs.	$50,000; maximum federal contribution is 80% of total project value.	At least 20% of total project cost; in-kind or non-federal source cash. No federal funds may be used to match Forest Service funds.	Application cycle is year-round, on a fund-available basis. Phone: 360/956-2306

Summary of Government Grant Programs for Infrastructure Improvements						
Program	***Agency***	***Eligible projects***	***Eligible applicants***	***Maximum grant***	***Match required***	***How to apply***
Public Works Construction Program	Economic Development Administration (EDA)	Water and sewer facilities which primarily serve industry and commerce; access roads to industrial sites or industrial parks; port improvements; business incubator buildings; revolving loan programs.	Cities, counties, tribes, states, and special purpose districts.	Contact program staff.	Local match varies based on economic distress of area; can leverage with state or federal programs.	Application cycle is year-round, on a fund-available basis. Requires preliminary review of proposals by EDA representative before formal application. Phone: 206/220-7682
Community Economic Revitalization Board (CERB)-Rural Economic Vitality (REV) Program	Washington State CERB, Washington State Department of CTED and Washington State DOT	Transportation improvements on state, federal and county roads, and city streets linked to economic development.	All public agencies an tribal governments located in designated rural county (population less than 100 persons per square mile) or state urban community empowerment zones.	No maximum grant.	13.5% non-federal match	Application cycle is year-round on a funds available bases. Phone: 360-586-0657

Summary of Government Grant Programs for Infrastructure Improvements						
Program	***Agency***	***Eligible projects***	***Eligible applicants***	***Maximum grant***	***Match required***	***How to apply***
Surface Transportation Program (STP) – Statewide Competition.	Washington State Department of Transportation (DOT).	Roads, bridges, bicycle facilities, pedestrian. walkways, carpool and vanpool projects, parking facilities, environmental enhancement, and statewide planning in connection with roads that are most important for interstate travel and national defense.	Cities, counties, transit agencies,, ports, tribes MPOs/RTPOs,[3] Available through statewide competitive programs.	Contact program staff.	Varies—Most programs are 86.5% federal/13.5% local match. Bridge funds are usually 80% federal/20% local match.	Applications due in March. Phone: 360-705-7377
Rural Arterial Program *(RAP)*	*County Road Administration Board (CRAB)*	Projects to improve rural arterial roads in counties; the project must be a county road classified as a major or minor collector in accordance with Federal Functional classification; projects must be ranked on a regional basis.	Counties only.	Contact program staff	80% RAP/20% local match.	Applications due March 1 of even-numbered years. Phone: 360/753-5989

[3]MPO stands for Metropolitan Planning Organization; RTPO stands for Regional Transportation Planning Organization.

Summary of Government Grant Programs for Infrastructure Improvements						
Program	***Agency***	***Eligible projects***	***Eligible applicants***	***Maximum grant***	***Match required***	***How to apply***
Urban Arterial Trust Account (UATA)	Washington State Transportation Improvement Board (TIB)	Projects to alleviate and prevent traffic congestion; eligible projects are for roads that are structurally deficient, congested by traffic, have geometric deficiency, or have accident problems. Must be consistent with regional and local transportation plans.	Cities (over 5,000 population) in an urban area and urban counties.	Contact program staff.	Depends on population: 0-9,999 pop. or 3rd class county requires 10%; 10,000-14,999 pop. or 1st or 2nd class county requires 15%; 15,000 and over pop. or Class A county requires 20%.	Applications likely due in September. Phone: 360/705-7596
Transportation Improvement Account (TIA)	Washington State Transportation Improvement Board (TIB)	Projects to alleviate and prevent traffic congestion caused by economic development or growth. Projects should be multi-agency, multi-modal, and congestion related, related to economic development activities. Must be on 6-year transportation improvement program (TIP).	Cities (over 5,000 population), urban counties, and transportation benefit districts	No maximum amount.	Minimum 20% local match required.	Applications likely due in September. Phone: 360/705-7592

Summary of Government Grant Programs for Infrastructure Improvements						
Program	***Agency***	***Eligible projects***	***Eligible applicants***	***Maximum grant***	***Match required***	***How to apply***
Pedestrian Facilities Program	Washington State Transportation Improvement Board (TIB)	Projects that enhance and promote pedestrian mobility and safety on routes with linkages to functionally classified route and in an adopted plan. Primary purpose of project must be transportation, not recreation.	Cities (over 5,000 population) and urban counties.	$100,000	Minimum 20% local match required.	Applications likely due in September. Phone: 360/705-7590

Summary of Government Grant Programs for Infrastructure Improvements						
Program	***Agency***	***Eligible projects***	***Eligible applicants***	***Maximum grant***	***Match required***	***How to apply***
Transportation Improvement Account (TIA) – Small City Account	Washington State Transportation Improvement Board (TIB)	Projects must address structural condition, lane and shoulder width deficiencies, and safety issues. Entire project must be in city limits. Project must be on the TIB Arterial System. Reconstruction projects must include a five-foot minimum width sidewalk on at least one side. Curb, gutter, storm drainage, street lighting, and landscaping may be included. Rehabilitation projects may include shoulder improvements, minor storm drainage, and sidewalks.	Incorporated cities (less than 5,000 population)	No maximum amount	Cities with 0-499 population require no match; cities with 500-4,999 population require 5% match.	Applications likely due in September. Phone: 360/705-7592

Summary of Government Grant Programs for Infrastructure Improvements						
Program	***Agency***	***Eligible projects***	***Eligible applicants***	***Maximum grant***	***Match required***	***How to apply***
Transportation Improvement Account (TIA) – Small City Account – Pedestrian Facilities Program	Washington State Transportation Improvement Board (TIB)	Projects that enhance and promote pedestrian mobility and safety on routes with linkages to functionally classified route and in an adopted plan. Primary purpose of project must be transportation, not recreation. Minimum sidewalk width is 5 feet.	Cities (under 5,000 population).	$75,000	Cities with 0-499 population require no match; cities with 500-4,999 population require 5% match.	Program begins in FY 2000. Phone: 360/705-7596
Rural Opportunity Fund	Washington State Department of Community, Trade and Economic Development.	Site-specific feasibility, pre-construction, and environmental mitigation planning projects; strategic diversification planning; and system development to improve access to capital, telecommunications, and expedited permit process.	Cities, towns, ports, and counties. Project must be on WA-CERT list.	Non maximum grant amount.	Contact program staff.	Contact program staff. Phone: 360-753-2221

Summary of Government Grant Programs for Infrastructure Improvements						
Program	***Agency***	***Eligible projects***	***Eligible applicants***	***Maximum grant***	***Match required***	***How to apply***
Old Growth Diversification Fund	Washington State Department of Community, Trade and Economic Development	Infrastructure financing to meet the need of value-added forest products firms as well as other manufacturers whose business assist community diversification away from dependence on old growth wood; community-based economic diversification.	Timber-dependent cities, towns, counties, non-profits, ports, and tribes.	No maximum grant amount.	50% non-federal match	Contact program staff. Phone: 360-586-0662

Appendix D — How to Evaluate Creditworthiness

How to Evaluate Creditworthiness

The ability to borrow money depends not only on the legal and practical debt limits discussed in Chapter 5 of this manual, but also on a local government's **creditworthiness** – its ability to obtain loans or issue bonds, as viewed by a lender. Creditworthiness is a way of describing a local government's ability to repay the money it borrows. Bond buyers and bankers will look at many factors when evaluating a bond issue or loan application. (See questions below.)

Even though a community does not determine its own creditworthiness (an outside party does), a community should assess its financial health to see if it is creditworthy in the eyes of the bond buyers or bankers. If it is not, there are actions a community can take to begin to improve creditworthiness.

Assess financial condition

To assess financial condition, calculate ratios that are financial "indicators" for community debt burden, financial operations, and socioeconomic conditions.

Debt management issues

- What amount and type of debt does the community and/or system currently have?
- How is the present debt being repaid?
- Have there been any problems repaying past debts?
- How much more money does the community want to borrow?
- How will the future debt be repaid?
- Are there specific revenue sources dedicated to repay the debt?
- Will the community commit to raising enough money to pay the debt?
- Will the community pledge additional security for the loan?
- Will the community set aside a reserve fund or take out bond insurance?
- What is the tax burden on the users of the system?

If the community has long-term debts, it should evaluate its overall "debt burden."

$$\text{Debt burden} = \frac{\text{annual general obligation debt service expenditures}}{\text{total general governmental expenditures}} \times 100$$

Where:

Total general governmental = general fund expenditures + special revenue fund expenditures + debt service fund expenditures.

If the debt burden ratio is above 15-20 percent, Standard and Poor's (a bond rating agency) considers the community's debt burden to be high.

Although they are not popular with staff, audits can demonstrate good financial management practices.

Community/utility overall financial management issues

- How is the community/utility managed?
- Does the utility have a balanced budget and reserves available for unexpected expenses?
- Are taxes and user charges collected on time?
- Are financial reporting procedures sound?
- Are the community and utility managers experienced professionals? How long have they been a part of the community?

The following indicators can be used to evaluate these areas:

$$\text{Utility operating ratio} = \frac{\text{utility operating revenues}}{\text{utility operating expenses}}$$

$$\text{Debt coverage} = \frac{\text{total revenues – non-debt expenses}}{\text{annual debt service}}$$

$$\text{Utility operating surplus as percentage of total expenses} = \frac{\text{utility operating (revenues – expenses)}}{\text{utility operating expenses}}$$

$$\text{Property tax collection rate} = \frac{\text{total property tax collected}}{\text{total property tax billed}}$$

Community socioeconomic conditions

- How strong is the community's economy?
- How quickly is the population growing (or declining)?
- What is the unemployment rate?
- How do household incomes compare to the rest of the county or state?
- Is there heavy reliance on one or two employers, or on a single industry?
- If so, is the industry stable?

$$\text{Unemployment rate (\%)} = \frac{\text{total unemployed}}{\text{total employed}} \times 100$$

$$\text{Median household income} = \text{U.S. Census median household income}$$

$$\text{Poverty rate} = \text{U.S. Census poverty rate}$$

How to improve community creditworthiness

If per capita debt level is relatively high, use additional security measures like bond insurance and loan reserve funds to strengthen creditworthiness.

If socioeconomic conditions are relatively poor:

- Establish a community-wide economic development plan that provides incentives for industry to locate in the community.
- Establish a program that assists unemployed or low-income residents.

How to show the community in the best light[1]

Be prepared to present your community positively at financing meetings by following these basic steps:

- Gather the data needed to get a complete picture of the community's debt position, financial operations, user fees, and socioeconomic conditions.
- Examine the community's financial health using the indicators in the sections above. Use other indicators or information that will convince bankers, bond buyers, or rating agencies that your community has the ability to repay its loans and bonds.
- Develop presentation materials that highlight the community's strengths and explain the positive actions it is taking to strengthen weaknesses.

[1] Information in this section is from *The Road to Financing: Assessing and Improving Your Community's Creditworthiness*, U.S. Environmental Protection Agency, 1992

Appendix E — Revenue Sources for Stormwater Utilities and On-Site Septic System Program

This table is based on information in the Puget Sound Water Quality Authority's publication Sound Waves, January/February 1993.

Funding authority	***Revenue sources***	***RCW chapter***	***Authorized activities***
Stormwater utility	Rates and charges, general obligation bonds, revenue bonds, fines and penalties, and special assessments.	Cities: 35.67, 35.92, 35.41 Counties: 36.94, 36.89	Funds raised by stormwater utilities can be used for comprehensive stormwater management and on-site septic system maintenance and inspection programs.
Sewer districts and water districts	Rates and charges, general obligation bonds, revenue bonds, and special assessments.	56.02, 56.04, 57.02, 57.04, 56.16, 56.20, 57.16, 57.20	Can be used to fund construction, maintenance, and operation of sewers, including on-site septic systems. This authorizes districts to become involved in any activity that improves water quality, including on-site system maintenance, nonpoint pollution control, and wetlands preservation and restoration.
Aquifer protection areas	Fees for withdrawal of groundwater and fees for on-site sewage disposal.	36.36	Main purpose is protection of subterranean water from pollution. Funds may be used for activities such as water protection planning, construction of stormwater facilities, monitoring and inspection of on-site septic systems, and implementation of groundwater management plans.
Lake management districts	Rates and charges, revenue bonds, and special assessments.	36.61	Funds can be used for improvement and maintenance of lakes. Can include on-site septic system maintenance programs, stormwater management programs, and other water quality protection activities, such as agricultural waste control.
Shellfish protection districts	Rates and charges, tax revenues, and inspection fees.	90.72	The purpose of these districts is to address nonpoint pollution threats to water quality and shellfish resources.

Funding authority	*Revenue sources*	*RCW chapter*	*Authorized activities*
			Should include any element needed to deal with the pollution threat, including stormwater management, on-site septic system monitoring, inspection and repair, animal grazing and manure management, and education and public involvement activities.
Flood control zone districts	Special assessments, fees for service, tax revenues, and general obligation bonds.	86.15	Mainly designed to control stormwater quantity issues, but can also be used to address water quality issues.
Drainage districts	Special assessments and special assessment bonds.	85.38	This provides the authority to undertake stormwater management activities, including quantity and quality.
Irrigation districts	Special assessments, rates and charges, and revenue bonds.	87.03	Irrigation districts may be formed to construct, repair, and maintain irrigation systems. In terms of water quality protection, their use is limited to stormwater management programs in rural areas.
Health districts	Permit fees	70.05	The main use for funds raised by health district permit fees is the operation of on-site septic system maintenance and operation programs.

Appendix F — Multi-Program Funding Scenario — Example Spreadsheets

Example Spreadsheet Information Table

Background Information		
Number of Connections	85	
Total Monthly Gross Revenues	$4,250.00	= *Monthly User Rate * Number of Users*
Total Monthly Operating Expenses	$1,200.00	*Budgeted*
Total Monthly Non-Operating Expenses	$3,050.00	= *Total Gross Revenues -Total Monthly Operating Expenses*
Desirable Debt Coverage	1.2	*Target based on good financial management practice*
Total Monthly Revenues Available for Debt Service	$2,541.67	= *Total Monthly Non-Operating Expenses / Desirable Debt Coverage*
Total Project Cost	$700,000.00	*Estimate based on Engineers Preliminary Budget*
Rural Development (RD) Loan Rate	0.0525	*Conservative estimate (could be as low as 4.5%)*
Rural Development (RD) Loan Term (years)	40	
Drinking Water State Revolving Fund (DWSRF) Rate	0.04	*Estimate based on being qualifying as disadvantaged community*
Drinking Water State Revolving Fund (DWSRF) Term (years)	20	*Estimate based on being qualifying as disadvantaged community*

Financial Package		
Average Monthly User Rate		*Target range between $40 and $50 per month*
RD Loan Principal		
DWSRF Loan Principal		
Monthly Payment to Service RD Loan	$1,569.96	*Based on principal, rate and term indicated.*
Monthly Payment to Service DWSRF Loan	$0.00	*Based on principal, rate and term indicated.*
Total Monthly Debt Service	$1,569.96	= *Monthly Payment to Service RD and DWSRF Loans*

Example Spreadsheet Constraints Table

Scenario Constraints					
Total Monthly Debt Service <= Total Monthly Revenues Available for Debt Service					1
RD Loan Principal > 0					1
DWSRF Loan Principal > 0					1
Average Monthly User Rate below $50 per month					1

Example Spreadsheet Solver Report

Solver Table Report - Answer table - Solved: 05-Feb-98 05:12 PM

Adjustable cells — Answers

Cell	Name	Lowest value	Highest value	1	2	3	4
A:B27	RD Loan Principal	$238,745.12	$377,232.48	$312,500.00	$377,232.48	$312,500.00	$238,745.12
A:B28	DWSRF Loan Principal	$0.00	$147,509.77	$0.00	$0.00	$0.00	$147,509.77
A:B24	Monthly User Rate	$44.59	$50.00	$50.00	$50.00	$44.59	$50.00

Supporting formula cells — Answers

Cell	Name	Lowest value	Highest value	1	2	3	4
A:B5	Total Monthly Gross Revenues	$2,898.22	$3,250.00	$3,250.00	$3,250.00	$2,898.22	$3,250.00
A:B7	Total Monthly Non-Operating Expenses	$1,698.22	$2,050.00	$2,050.00	$2,050.00	$1,698.22	$2,050.00
A:B11	Total Monthly Revenues Available	$1,415.19	$1,708.33	$1,708.33	$1,708.33	$1,415.19	$1,708.33
A:B15	Amount Needed from Loans and	$625,000.00	$625,000.00	$625,000.00	$625,000.00	$625,000.00	$625,000.00
A:B29	Monthly Payment to Service RD	$1,081.18	$1,708.33	$1,415.19	$1,708.33	$1,415.19	$1,081.18
A:B30	Monthly Payment to Service DWSRF	$0.00	$627.15	$0.00	$0.00	$0.00	$627.15
A:B31	Total Monthly Debt Service	$1,415.19	$1,708.33	$1,415.19	$1,708.33	$1,415.19	$1,708.33

References

American City & County Magazine. "Bond insurance lowers the cost of borrowing." (January 1998): page 52.

Association of Washington Cities. August 1993. Budgeting for Cities and Towns in Washington State: A Handbook for Policy Makers, Chief Appointed Officials and Others Involved in the Budget Making Process. Olympia, WA: Michael Bailey, CPA.

Association of Washington Cities. October 1996. Municipal Government Revenues – 1997. Olympia, WA: Faith Trimble.

Butkus, Pete. The Capital Improvement Planning Manual. Olympia, WA: Washington State Department of Community Development, 1987.

Cameon, P.J. National Drinking Water Clearinghouse. "Bond Banks Offer Financing at Less Cost." Water Sense Volume 3, Issue 2. (Spring 1997): page 1.

Cameon, P.J. National Drinking Water Clearinghouse. "Issuing Bonds: Getting Through the Process." Water Sense Volume 3, Issue 1. (Winter 1996/97): page 4.

Cameon, P.J. National Drinking Water Clearinghouse. "Using Bonds To Finance Construction." Water Sense Volume 2, Issue 4. (Fall 1996): page 1.

Coie, Perkins. The Advantage: Infrastructure Financing. Boise, ID: State of Idaho Department of Commerce and Association of Idaho Cities, June 1991.

Department of Community, Trade and Economic Development, Young, Randy "Big Issues to Resolve in a Concurrency Ordinance" About Growth, Page 1 (Summer 1996).

Gaidos, Steve. Financing for Cities. Seattle, WA: Pacific Crest Securities, 1996.

Government Finance Officers Association. 1994. Debt Issuance and Management: A Guide for Smaller Governments. Chicago, IL: James C. Joseph.

Infrastructure Assistance Coordinating Council and Association of Washington Cities. September 1996. Infrastructure Assistance Directory. Olympia, WA

International City/County Management Association. 1988. The Practice of Local Government Planning, Second Edition. Washington, D.C.: Frank S. So and Judith Getzels.

Koegen, Roy J. Washington Municipal Financing Deskbook. Seattle, WA. Cooperative Publishing, 1993.

Municipal Research & Services Center of Washington, Information Bulletin. Budget Suggestions for 1998. Seattle, WA: August 1997.

Municipal Research & Services Center of Washington. A Debt Primer for Washington's Cities and Towns. Kirkland, WA: August 1994.

Municipal Treasurer's Association of the United States and Canada. May 1994. Debt Policy Handbook. Washington, D.C.

National Drinking Water Clearinghouse. "Before You Look for Funding: Questionnaire Can Help You Get Started." Water Sense Volume 3, Issue 1. (Winter 1996/97): pages 14-15. Laurie Klappauf, editor.

Preston, Gates & Ellis. Financing by Local Governments. November 1994.

Puget Sound Water Quality Authority. "Local, Long-Term Water Quality Protection Funding Options." Sound Waves. (January/February 1993): page 4.

Raftelis, George A. Comprehensive Guide to Water and Wastewater Finance and Pricing. Second Edition. Cherry Hill, New Jersey: Lewis Publishers, 1993.

Washington State Department of Ecology. December 1996. Environmental Handbook for Washington Construction Contractors: Regulatory Guidance. Publication No. 96-503.

U.S. Environmental Protection Agency. 1994. A State and Local Government Guide to Environmental Program Funding Alternatives, EPA 841-K-94-001.

U.S. Environmental Protection Agency. 1992. The Road to Financing: Assessing and Improving Your Community's Creditworthiness. WH-347.